

DOWNTOWN URBAN DESIGN  
REFERENCE MANUAL

DRAFT





## INTRODUCTION

Downtown Tucson has a remarkable potential to develop a more diverse mix of urban life allowing for work, shopping, entertainment, and housing. The quality of that development in preserving a historic context while adapting to modern sustainable development is an exciting opportunity for the City and its citizens.

The *Downtown Urban Design Reference Manual* (the *Reference Manual*) is a supplement to the adopted design policies currently used in development review of the Downtown. Further, it is intended to guide future public and private design decisions related to redevelopment and revitalization in the general Downtown area. The *Reference Manual* encourages developers and the City to set high standards with respect to sustainable urban design.

This Reference Manual includes the most important design considerations for development in the Downtown in one place. It also attempts to set up initial criteria and considerations for the evolution towards urban neighborhoods that adhere to sustainable design principles.

Outside of Part 1 which contains adopted policies, the remaining parts of the *Reference Manual* are not prescriptive, but rather should be viewed as supportive guidelines of adopted policy for the public and private sectors' discussion of design details for new Downtown development.

The three major design criteria parts (Adopted Downtown Documents, Historic Design, Congress District Design Manual) of the *Reference Manual* are consistent with each other. Part 4, Commentary is set up to give several City advisory groups' opinions of Part 3, the Congress District Design Manual. The advisory groups' comments generally support the Congress District Design Manual, however, they sometimes give a different design viewpoint.

Below is a brief summary of each part of the *Downtown Urban Design Reference Manual*:

### Part 1 - Adopted Downtown Design Documents

The documents in this section contain the key Mayor and Council adopted design policies that affect Downtown development. The City's advisory Design Review Board will consider and include the comments based on these policies and regulations in its recommendations. The design criteria included in the Congress District Design Manual (Part 3 of the *Reference Manual*) are consistent with the design standards presented in the Downtown's adopted design policies.

### Part 2 - Historic Preservation Design

This part of the *Reference Manual* explains that historic buildings must be reviewed from the point of view of their historic context. Issues like modifications, additions and demolitions of historic buildings in the Downtown are reviewed on a case by case basis. It promotes adapted reuse of historic buildings and draws attention to the need to retain historic streetscapes and to guide new development to be compatible with the Downtown's historic resources.

### Part 3 - Congress District Design Manual (CDDM)

The major part of the *Reference Manual* consists of the CDDM. It is a complete design manual focused on downtown urban design and the specific issues of the triangular study area. The recommendations in this part look at architecture, streetscapes, sustainability and many more design elements affecting the study area. In many ways, the design elements of the CDDM represent the best practices and design principles of sustainability used in major American urban centers.

### Part 4 - Commentary on the Congress District Design Manual

This part includes the comments made by advisory committees that have interests in the Downtown. In some cases, they endorse CDDM's view and other times they disagree with the recommendations and offer their own. Sometimes the reviewers took CDDM's recommendations as actual directives toward eventual development. The CDDM was not intended to be the final word on any specific property.

An example is the display of an esplanade street treatment on the south side of Congress Street across from the Ronstadt Transit Center in the conceptual vision plan. The consultant was attempting to show a conceptual esplanade treatment within the study area with the caveat that this was a conceptual scenario and not a final recommendation on how these specific Congress Street properties should be developed.

It was correctly pointed out by the Historic Advisory Commission that the buildings along this street are historic and the present façades within the streetscape need to be handled sensitively within their historic context.

### Conclusion

Finally, from time to time revisions may be made to the *Reference Manual* to address corrections and updates in adopted policies and additions that are consistent with the best practices of urban design and sustainability themes promoted herein.

The *Downtown Urban Design Reference Manual* provides a useful platform for further evolution of urban design policy in future community discussions regarding the Downtown area and emerging urban neighborhoods.

# TABLE OF CONTENTS

<b>I. ADOPTED DOWNTOWN DESIGN DOCUMENTS.....</b>	<b>1</b>
<b>II. HISTORIC ELEMENTS AND COMPATIBLE DESIGN.....</b>	<b>13</b>
<b>III. CONGRESS DISTRICT DESIGN MANUAL.....</b>	<b>20</b>
Section 1: Introduction.....	22
Section 2: The Vision.....	30
 <b>URBAN DESIGN CONSIDERATIONS</b>	
Section 3: Placemaking Strategies.....	38
Section 4: Creating Spaces.....	54
Section 5: Architecture .....	64
Section 6: Service & Parking.....	78
 <b>STREET DESIGN GUIDELINES</b>	
Section 7: Street Design .....	82
Section 8: Paving Design .....	92
Section 9: Lighting Design .....	102
Section 10: Site Furnishings .....	108
Section 11: Branding & Signage .....	120
Section 12: Planting Design.....	124
Section 13: Sustainability.....	136
Section 14: Policy Recommendations .....	142
 <b>IV. COMMENTARY ON CONGRESS DISTRICT DESIGN MANUAL.....</b>	 <b>146</b>



PART I  
ADOPTED DOWNTOWN DESIGN  
DOCUMENTS

---



## **General Plan**

### **Element 2: Land Use**

**Policy 6: Promote continued development of Tucson's Downtown and other mixed-use activity centers in order to increase transit use; reduce air pollution; improve delivery of public and private services; and create inviting places to live, work, and play.**

#### **Downtown Focus**

##### *Supporting Policies*

- 6.1 Enhance the Downtown retail core as the primary regional activity center for finance, culture, and government, complemented by a mixture of land uses to support Downtown housing that is compatible with the adjacent Downtown historic residential neighborhoods.
- 6.2 Encourage the location of new residential opportunities in the Downtown.
- 6.3 Promote upgrades to neighborhood infrastructure, including sidewalks and street lighting, that are compatible with the historic character.
- 6.4 Promote retail and other private sector development that will complement and support the existing Downtown fabric.
- 6.5 Locate new major governmental, cultural, and educational facilities in the Downtown area.
- 6.6 Promote historic neighborhoods, historically significant structures and sites, and the development and retention of residential uses in the greater Downtown.
- 6.7 Promote appropriately located and scaled high-density residential uses in and near the Downtown to support Downtown services and retail and provide incentives to attract new commercial and other support services to the Downtown.
- 6.8 Support Downtown development and redevelopment of street level retail or other pedestrian-oriented land uses, such as galleries, restaurants, and cinemas.
- 6.9 Promote revitalization of the Warehouse District for the development of a diversity of arts-related land uses and special cultural events.
- 6.10 Promote City participation in the construction of multiuse parking structures that support intermodal opportunities and ground level retail.
- 6.11 Promote public-private partnerships to enhance building facades and streetscapes.
- 6.12 Promote land use, transportation, and urban design improvements that will link the Downtown activity center, Fourth Avenue, the Warehouse District, and the University of Arizona and that will enhance the historic and cultural quality within the greater Downtown. Continue to work with the University of Arizona, private developers, and neighborhood groups to enhance these linkages and Downtown design character.





New Residence in Armory Park del Sol



Pedestrian-Friendly Area on University Boulevard

**Element 4: Community Character and Design**

**Policy 6: Promote quality in design for residential, commercial, industrial, mixed-use, and publicly-funded development.**

- 6.1 All development should incorporate environmentally sensitive design that protects the integrity of existing neighborhoods, complements adjacent land uses, and enhances the overall function and visual quality of the street, adjacent properties, and the community.
- 6.6 Solutions and strategies included in the *Design Guidelines Manual* should be utilized to provide an improved level of community design.
- 6.6.A Maintain and improve the *Design Guidelines Manual* based on the suggestions and experience of design professionals, property owners, and City staff.

**Design Guidelines Manual**

**V. Special Design Options**

**C. Pedestrian District**

**Intent** – Create a pedestrian-friendly environment within mixed-use areas that draws neighbors, local residents, and tourists alike to the stores, restaurants, and offices of that district.

**Example** – *Main Gate*: This site turns a potential parking problem into its solution by minimizing vehicular impact, promoting bus, bike, trolley, and foot travel, and improving the overall atmosphere with facade improvements, wide sidewalks with trees, and outdoor dining.

**Desired Design Qualities**

- Design plans should include a high intensity of mixed-use opportunities within a walkable area.
- Plans should provide for peripheral parking to minimize the need for internal vehicular circulation and/or parking at the rear or side of buildings to preserve the street frontage for pedestrians.
- An enhanced pedestrian environment should include shade trees, plazas, fountains, lighting, facade improvements, and store fronts that encourage window shopping.
- Graphic themes, enhanced streetscapes, and public art should be included to make the project a distinct and unique destination.

**Selection Criteria**

- The area should include concentrations of both commercial uses and varying densities of residential units in and near the district.
- The area should be accessible by multiple modes of transit, including bus or trolley and bicycles with priority bicycle routes included within or surrounding the project area.
- The area should be part of or near existing activity centers or nodes, or adjacent to parks or schools or other pedestrian traffic generators.
- Sites should be located within existing improvement districts or included within existing capital improvement plans, or in areas containing pedestrian amenities, in order to capitalize on existing or planned improvements.

### E. Redevelopment/Revitalization District

**Intent** – Improve the aesthetic quality and restore the economic viability of areas that were once successful business and residential districts but have since declined in quality through a combination of reuse and demolition/new construction programs.

**Example** – “The Lost Barrio:” Many buildings in this area are beyond repair, while others, with some work, are ideal for re-use. This district has the ability to capitalize on its historic design as a theme for businesses and residences alike.

#### **Desired Design Qualities**

- Sites should show the potential of an increase in the intensity and mixture of uses while improving the economic viability of the area as a whole.
- Existing structures should be utilized for a combination of adaptive reuse and demolition and re-construction projects.
- Projects should encourage neighborhood interaction in residential areas and pedestrian access in commercial areas.
- Developments should have access to existing utilities and infrastructure.

#### **Selection Criteria**

- Sites are located where the original function of the development is no longer viable.
- Existing structures on the site are currently deemed unsafe, unusable, or not up to current construction codes.
- Sites are located on disturbed or reclaimed land, or areas that may be classified as “Brownfields.”
- Parcels are awkwardly shaped or located on land left by highway construction
- Sites are located within existing or planned corridor improvement areas, or other capital improvement target areas.

## El Centro Redevelopment Plan

### XV DESIGN OBJECTIVES

Developer(s) will be required to meet the design objectives enumerated below, in order to achieve sound and attractive development and to ensure that the new development is properly integrated into the area. The developer's proposals will be subject to the City's site plan and design review process. In the case of projects undertaken by a redevelopment entity, the developer must first receive the approval of the redevelopment entity prior to being submitted to the City for its review. The design objectives follow:

- Provide building orientation siting and an arrangement and relationship among uses and structures in an interesting sequence that defines, complements, and supports a strong pedestrian network and transportation system as an integral part of the overall design and project activity. [Demonstrate awareness and sensitivity to the area's historic resources.]
- Provide an attractive urban environment utilizing form and materials that blend harmoniously with adjoining areas.
- Provide for well-designed open spaces in relation to new buildings, including appropriately screened and landscaped pedestrian and parking areas.
- Provide maximum separation and protection of pedestrian access routes from vehicular traffic arteries and optimum internal pedestrian circulation routes within the development.



**Businesses in “The Lost Barrio”**





Wide Pedestrianway along Pennington Street



Landscaping Near the Tucson Convention Center

- E. Provide adequate setbacks or acoustical shielding from traffic noise.
- F. Otherwise reflect standards of quality and excellence required for acceptance of the concept through site plan review procedures.

**Rio Nuevo Downtown West Component Redevelopment Plan R-2**

B. Design Objectives

The redeveloper(s) will be required to meet certain design objectives enumerated below, subject to site plan and design review and approval, in order that sound and attractive development be achieved and to ensure that the new development is properly integrated into the area:

1. Provide building orientation and siting and an arrangement and relationship among uses and structures in an interesting sequence that defines, complements and supports a strong pedestrian corridor and alternative transportation system as an integral part of the overall design and project activity.
2. Provide an attractive urban environment utilizing form and materials that blend harmoniously with adjoining areas.
3. Provide for well-designed open spaces in relation to new buildings, including appropriately screened and landscaped pedestrian and parking areas.
4. Provide maximum separation and protection of pedestrian access routes from vehicular traffic arteries and optimum internal pedestrian circulation routes within the development.
5. Provide adequate setbacks or acoustical shielding from traffic noise.
6. Otherwise reflect standards of quality and excellence required for acceptance of the concept through Site Plan Review procedures.
7. It is expressly understood that approval of any site or architectural plans, including landscaping, signing and lighting, is solely at the discretion of the Downtown Development Corporation as the contractor with the Mayor and Council for implementation of this project, the final approval by the City of Tucson as required by applicable Tucson City Codes, and applies to any and all features shown thereon; that any subsequent additions, deletions, or other modifications thereof are required to be resubmitted by the redeveloper(s) for approval before actual construction can occur; and furthermore, that the regulations and controls of this Plan as they pertain to land use will be implemented where applicable by appropriate covenants and other provisions in the agreement for land disposition and conveyance executed pursuant thereto. The covenants shall run with the land for a period of 20 years and for a subsequent period of 20 years; provided, however, that after the first period of 20 years, if it is found that there no longer exists justification to maintain the use or uses of the site, the subsequent period of 20 years may be extinguished by the Mayor and Council.

**Tucson Community Center PAD-5**

**III PLANNING AREA IMPLEMENTATION**

A. Design Guidelines

The following design guidelines are provided for Planned Area Development Areas, per Exhibit B, as statements of intent which are flexible in order to promote good design and encourage creativity and quality development. The guidelines are intended to direct site specific development planning and should be used in conjunction with the development standards outlined in Section IIB. The guidelines are grouped into generic design areas as follows:

## 1. Circulation

### a. Street layout and design shall consider:

- natural contours of the land
- soil types
- geologic conditions
- drainage patterns
- storm water
- developments adjacent to Tucson Community Center (TCC)
- safety features
- economy of construction
- convenience and economy of use
- archaeological features

### b. Pedestrian circulation shall be integrated with the street system, on-site plazas, and adjacent neighborhoods where possible.

### c. Circulation design shall provide for:

- a safe and adequate means of ingress and egress of vehicular and pedestrian traffic to and within the project
- access of emergency vehicles necessary to serve the project area

### d. Access design along Granada Avenue shall consider that adequate traffic flows are maintained.

### e. Loading areas shall be located away from existing residential uses.

## 2. Infrastructure

### a. Storm drainage facilities shall ensure the acceptance and disposal of storm runoff without damage to streets or adjacent properties.

### b. Utility easements shall be provided as required to facilitate an appropriate service network within the project area.

### c. Utility facilities (i.e. electrical transformers) shall be visually screened through undergrounding or appropriate screening.

### d. Development will not contaminate groundwater resources.

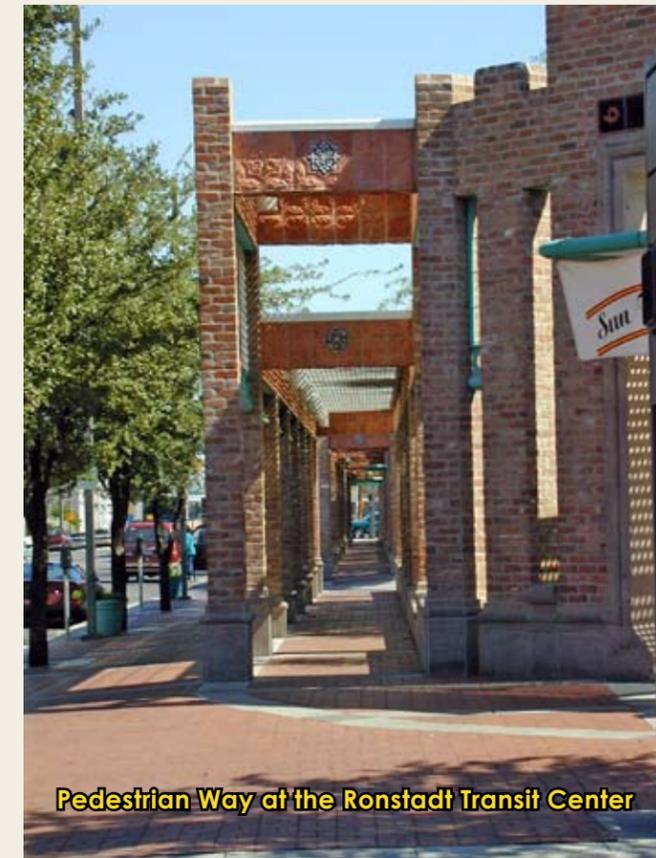
## 3. Site Development

### a. Setbacks

Architectural design will avoid long linear vistas and building edges within the development envelope and along the streetscape through variations in setbacks. Random setbacks of buildings and landscaping are encouraged.

### b. Parking

Parking shall be provided in accordance with the City of Tucson *Land Use Code (LUC)*, except as modified below. Parking areas shall be designed to facilitate both vehicular and pedestrian movements. The TCC parking standards are based on a parking demand and supply analysis prepared by Barton-Aschman Associates, which is summarized below and is included in the Impact Analysis.



Pedestrian Way at the Ronstadt Transit Center



Parking along Pennington Street



**Landscape Buffering and Lighting  
at the Train Depot**



The required parking will be based on weekday parking demand (i.e., 8 AM-5 PM) for the Convention Center activities and will be provided per the following table. The analysis indicated that these quantities will provide sufficient parking to accommodate daytime parking needs for all types of consumer, trade or association events, through the 2005 time horizon. Adequate evening parking will be available within 4 blocks of the TCC Planned Area Development area, through the year 2005. (See Impact Analysis)

Parking:

Required parking can be met within 600 feet of the Planned Area Development area boundary on the same or another block, or existing parking structures within 1500 feet, with the approval of the Planning Director, based on the following criteria:

- 1) It does not necessitate demolition of structures listed on the National Register of Historic Places;
- 2) If it is within a designated historic district, prior review and comment of the Tucson/Pima County Historical Commission and appropriate advisory boards is required;
- 3) It must be consistent with adopted Mayor and Council plans and policies;
- 4) It is determined that any proposed parking will not significantly increase traffic volumes nor cause increased levels of traffic congestion;
- 5) It must have primary access to a major street;
- 6) It is determined that pedestrian access to and from the principal use is satisfactory in terms of:
  - a) sidewalks
  - b) pedestrian crossing signals
  - c) lighting

c. Landscaping/Screening

Landscape Design: Landscape materials shall enhance the major architectural design elements through the coordinated use of flower and leaf colors, tree forms, plant material masses, and lighting.

Grouped masses of plant material shall be designed to complement architectural elevations and rooflines through color, texture, density and form on both the vertical and horizontal planes.

Wherever feasible, native or adaptive, drought-tolerant plant material shall be used.

Appropriate plant materials shall be used to define space, create a visual image and separate differing land uses.

Landscaping shall consider solar rights of adjacent structures.

All landscaping shall comply with sight visibility triangles as established in the City of Tucson Street Development Standards.

Project Entries/Streetscapes: Landscaping shall establish project identity and accentuate common entrance areas, as well as enhance the character and quality of the existing landscape and hardscape in the Tucson Community Center.

The TCC streetscape design shall be compatible with the guidelines proposed in the City of Tucson Streetscape Master Plan for Downtown Tucson.

Streetscape design shall incorporate a coordinated landscape palette that includes a mix of canopy trees, shrubs, and groundcover. Canopy trees shall be utilized to provide shade and promote unity in the streetscape. The streetscape design shall cover areas within street medians, parking areas visible from public streets, and, where appropriate, the street edges of each development area.

Landscaping shall be interspersed within parking areas and used to screen parking areas from public streets and adjacent residential neighborhoods.

The Cushing Street edge treatment shall be designed as a landscape promenade which encourages pedestrian movement and provides landscape plazas, where neighborhood activities such as craft fairs, can occur.

Preservation of the existing view corridor from the Fremont House to Granada Avenue for pedestrian access and public visibility shall be encouraged.

Landscaped Plazas: Plazas within the interior of the Planned Area Development area shall be designed to create an inviting atmosphere for outdoor congregation, with such features as canopy trees for shade, comfortable outdoor seating, where appropriate.

Pedestrian Linkages: Pedestrian corridors shall be designed to promote pedestrian movement through the Planned Area Development area, through the use of a coordinated landscape palette to visually link project entries and interior landscaped plazas.

Architectural elements, such as decorative paving, bollards, etc., and signage shall be utilized at project entries to direct pedestrians to adjacent areas such as the Downtown Arts District, the Civic Center, and downtown retail, restaurant, off-site parking and bus stops.

Screening: Landscaping, fences, walls, or a combination of these elements, shall be utilized to visually screen and/or physically enclose outdoor storage areas, loading docks and ramps, transformers, storage tanks, roof and ground-mounted equipment, and other appurtenant items of poor visual quality.

Screen walls and fences shall generally be as tall as those objects or areas they are intended to visually screen, but shall not exceed a maximum height of six feet. Canopy trees or hedge-type plant materials shall be used to screen those objects which exceed six feet in height.

Screen walls, fences, and other structural barriers shall be designed of similar materials, colors, and general style as the primary buildings within a development area.

Where screen walls or fences are of such length as to create a potentially monotonous appearance, they shall be designed with variations in wall alignment (such as jogs, curves, or notches), constructed with decorative materials or textured covering materials, or integrated with landscaping that includes canopy trees.

#### d. Lighting

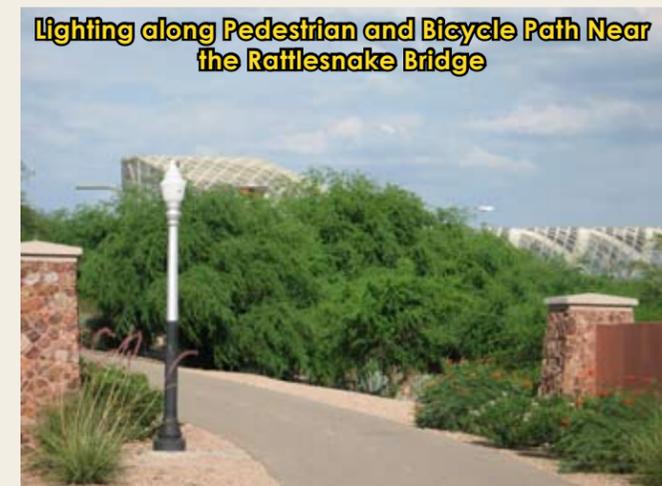
Lights shall not be placed to cause glare or excessive light spillage on neighboring sites and residential neighborhoods.

Concealed light sources are recommended.

The design of light fixtures and their structural support shall be architecturally compatible with the surrounding buildings and street lighting.



**Pedestrian Area and Lighting Near the Temple of Music and Art on Scott Avenue**



**Lighting along Pedestrian and Bicycle Path Near the Rattlesnake Bridge**



Sign at Santa Theresa Tile Works Doubles as Art



Windows at Ike's Add Light and a View



Outdoor Eating Area on Congress Street

All light standards within the public rights-of-way which will be maintained by the City will use lighting fixtures compatible with City specifications. Heights of poles are subject to the approval of the City Traffic Engineer.

All parking lot and driveway lighting should provide uniform illumination. Accent illumination is recommended at key points such as entrances, exits, loading zones, and drives.

e. Signage

Signs shall be used for the purpose of identification and direction. The design of permitted signs shall be architecturally integrated with the building design.

Plans for signs shall be reviewed as part of the architectural and design controls to ensure aesthetic treatment and compatibility with the other development areas and the surrounding neighborhood. Until such time as the proposed Special Districts section of the Sign Code is adopted and becomes operative, signage will be in compliance with the City Sign Code.

**Rio Nuevo Downtown Overlay Zone**

*2.8.10 RIO NUEVO AND DOWNTOWN (RND) ZONE.*

2.8.10.1 Purpose. The purpose of this overlay zone is to implement the policies of the City's General Plan, with special emphasis on ensuring the cultural, economic, and general welfare of the community. The Rio Nuevo and Downtown (RND) Zone promotes harmonious development within the zone; creates and enhances the Downtown pedestrian environment; and celebrates Tucson's rich historic, cultural, and artistic heritage. The design principles, categories, and criteria referenced in this Section are intended to promote public-private partnerships to support quality development within the Rio Nuevo District, as well as enliven and revitalize the Downtown. Development within the RND zone shall satisfy the design principles set forth in this Section.

Diversity, Design in Context, and Accessibility are the design principles that form the basis for the specific design criteria to be applied to new projects in the Rio Nuevo and Downtown areas.

Diversity is the incorporation of all of the prehistoric, historic, and cultural elements that make up Tucson's urban form and context. This principle forms the basis for the specific design criteria, including building character and materials, which reflect the indigenous influence of the Sonoran Desert region and culture. The intent of this design principle is not to prescribe architectural style, materials, or form but to encourage innovation in contemporary design. Design in Context is the recognition that Tucson is a unique desert southwestern city. New buildings should also translate into contemporary form the basic principles that contribute to historic structures and other structures in and around the Site Context - Development Zone, as well as addressing the Regional and Community Context.

Accessibility includes three dimensions. The first is physical mobility for pedestrians, including physically disabled pedestrians, bicycles, transit, and private cars, provided by an efficient and pleasant circulation system. The second is visual, retaining physical amenities such as viewsheds, open space, and visual connections to the mountains and the Santa Cruz River. The third is informational and educational, including access to information and ideas.

2.8.10.5 Design Criteria. Development within the Rio Nuevo and Downtown (RND) Zone shall meet the design principles set forth in Sec. 2.8.10.1 by complying with the following Design Criteria (see Development Standards 9-10.0, 10-02.0, 10-03.0, and 10-05.0). (Ord. No. 9967, §2, 7/1/04)

A. The proposed buildings should respect the scale of those buildings located in the development zone and serve as an orderly transition to a different scale. Building heights with a vastly different scale than those on adjacent properties should have a

transition in scale to reduce and mitigate potential impacts. In areas undergoing change, long-range plans should be consulted for guidance as to appropriate heights.

B. All new construction shall maintain the prevailing setback existing within its development zone.

C. All new construction shall provide scale-defining architectural elements or details at the first two floor levels, such as windows, spandrels, awnings, porticos, cornices, pilasters, columns, and balconies.

D. Every commercial building frontage shall provide windows, window displays, or visible activity within and adjacent to the building at the ground floor level, with a minimum of fifty (50) percent of the building frontage providing such features.

E. A single plane of a facade at the street level may not be longer than fifty (50) feet without architectural relief or articulation.

F. Building façade design shall include pedestrian-scaled, down-shielded, and glare-controlled exterior building and window lighting.

G. The front doors of all commercial and government buildings shall be visible from the street and visually highlighted by graphics, lighting, marquees, or canopies.

H. Modifications to the exterior of historic buildings shall complement the overall historic context of the Downtown and respect the architectural integrity of the historic facade.

I. Buildings shall be designed to shield adjacent buildings and public rights-of-way from reflected heat and glare.

J. Safe and adequate vehicular parking areas designed to minimize conflicts with pedestrians and bicycles shall be provided.

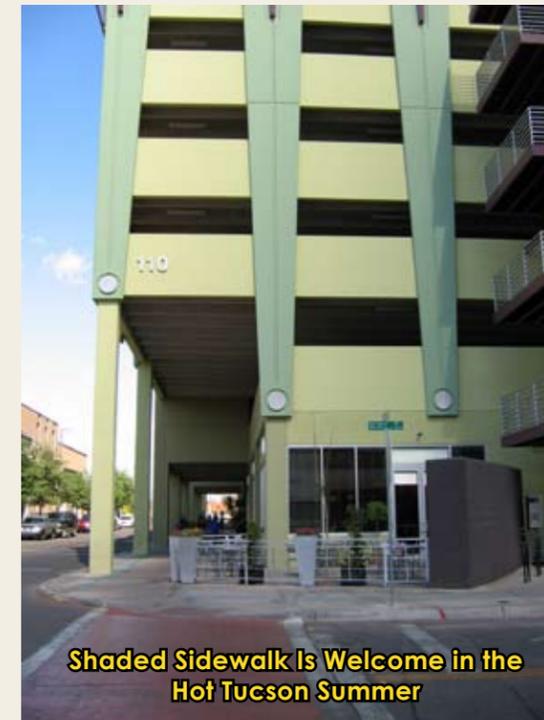
K. Adequate shade shall be provided for sidewalks and pedestrian pathways, using shade structures or vegetation, where permitted by the City of Tucson.

2.8.10.7 Demolition of Rio Nuevo and Downtown Zone structures. Structures within the RND which are more than forty (40) years old and which are eligible for, or registered on, the National Register of Historic Places or the Arizona Register of Historic Places, shall be reviewed in accordance with this section. Structures that are designated as Historic Landmarks shall be reviewed in the same manner as historic contributing properties. Structures eligible for designation which contribute to the historic character of the RND shall be reviewed in the same manner as contributing, nonhistoric structures. Structures that are forty (40) years old or less, and structures that are determined not to be eligible for, or registered on, the National Register of Historic Places or the Arizona Register of Historic Places, shall not be subject to any further review. (Ord. No. 9967, §2, 7/1/04)

## RELEVANT STUDIES

### PUBLIC PROJECT PLANS

- *Community Vision and Strategic Plan* (Design Studios West, Inc.) submitted to the City of Tucson, November 1994
- *Rio Nuevo Master Plan*, submitted to City of Tucson, February 2001
- *Evaluation of the Economic Impact of the Iconic Rainbow Bridge Project* (ConsultEcon, Inc.), submitted to the City of Tucson, December 2005
- *Los Callejones Master Plan* (Los Callejones/Off Congress Committee), 1992
- *Tucson Entertainment District* (van Dijk Pace Westlake Architects) submitted to Reliance Development Company and the City of Tucson, 1997





Traffic on Congress



Utilities Above and Below Ground



- *Urban Design, Development & Management Strategies for the Tucson Arts District: Findings, Opportunities & Implementation Final Report* (Project for Public Spaces), June 1988

**STREETSCAPE PLANS**

- *Congress Street Master Plan and Streetscape Design* (Wheat Scharf Associates), submitted to City of Tucson, January 2006
- *Congress Street Planning 2002-2003* (Tucson Downtown Alliance) May 2003
- *Congress Street Project Lighting Design and Report* (Benya Lighting Design), submitted to City of Tucson, January 2005
- *Depot Gateway Vision* (Arthur E. Keating), March 1995
- *Master Plan for the Scott Avenue Improvement Project*, submitted to City of Tucson, June 2003
- *Tucson Downtown Comprehensive Street Tree Plan* (Wallace, Roberts & Todd), September 1998
- *Tucson Historic Warehouse Arts District Master Plan* (Tucson Arts District Partnership, Inc.), submitted to City of Tucson, May 2004

**TRANSPORTATION PLANS**

- *2030 Regional Transportation Plan* (Pima Association of Governments), amended version adopted by PAG Regional Council on June 29, 2006 Previous and Related Studies 2
- *City of Tucson Major Transit Investment Study Final Report* (S. R. Beard & Associates Transportation Consultants), May 2006
- *City of Tucson/ParkWise Downtown Five-Year Parking Master Plan* (TransCore), submitted to City of Tucson, October 2004
- *Downtown LINKS* - [www.downtownlinks.info](http://www.downtownlinks.info)
- *Five-Year Regional Transportation Improvement Program 2007-2011* (Pima Association of Governments), approved by PAG Regional Council on Sept. 28, 2006
- *Fourth Avenue Underpass Project Study – Plan I-2006-027* (TranSystems), submitted to City of Tucson, April 2007
- *Intelligent Transportation Systems ITS Strategic Deployment Plan – 21st Century* (Pima Association of Governments), September 2003
- *Measures for a Livable Corridor: Making Stone Avenue a Better Place to Live and Work* (Parsons-Brinkerhoff/City of Tucson), submitted to the City of Tucson January 2001
- *Proposed 2007 Regional Plan for Bicycling* (Pima Association of Governments), 2007
- *Regional Pedestrian Plan* (Pima Association of Governments), July 2000
- *Regional Transportation Authority Plan* (Regional Transportation Authority), adopted by Pima County voters on May 16, 2006
- *Statewide Bike & Pedestrian Plan* (Arizona Department of Transportation), August 2003
- *Tucson Downtown Pedestrian Implementation Plan* (Wallace, Roberts & Todd), Submitted to the City of Tucson, November 1996
- *Tucson Stormwater Management Study Master Plan*, 1996, prepared by Tetra Tech, Inc., approved by Mayor and Council in 1996

**UTILITY PLANS**

- *Clark Street Storm Drain Concept Design Report* (TetraTech, Inc.), submitted to City of Tucson, May 2004
- *Commercial Building Energy Consumption Survey* (U.S. Department of Energy, Energy Information Administration), 2003
- *Interceptor Condition Assessment Project* (Brown & Caldwell), submitted to Pima County, 2004
- *Pima County Regional Optimization Master Plan* (Pima County Wastewater Management), ongoing
- *Rio Nuevo Utility Master Plan for Civic Plaza, Cultural Plaza, Tucson Origins Park* (GLHN Architects & Engineers, Inc.), submitted to City of Tucson, February 2005
- *TEP Saturation Load Study* (Mark Etherton, Santa Cruz Water & Power Districts Assoc.), ongoing

**OTHER RELATED STUDIES**

- *City of Tucson Water Harvesting Guidance Manual* (City of Tucson Department of Transportation, Stormwater Section), adopted by the City of Tucson Mayor and Council on October 18, 2005
- *New Jersey Rehab Code* (New Jersey State Department of Community Affairs), 2000
- *Tucson Tax Increment Financing (TIF) Investment Budget, 2006-2025* (Tucson Downtown Alliance/Downtown Stakeholders), presented to Arizona State, May 2007

PART II

HISTORIC ELEMENTS AND  
COMPATIBLE DESIGN

---

THE HISTORIC CHARACTER OF THE CONGRESS DISTRICT

The Congress District at the eastern end of Downtown retains much of its historic fabric. In the study area shown on page DM27, 73 percent of the buildings are more than 50 years old and are either listed on the National Register of Historic Places, or are eligible for listing. Within the "influence area" shown on page DM27, 48 percent of the buildings are listed or eligible.



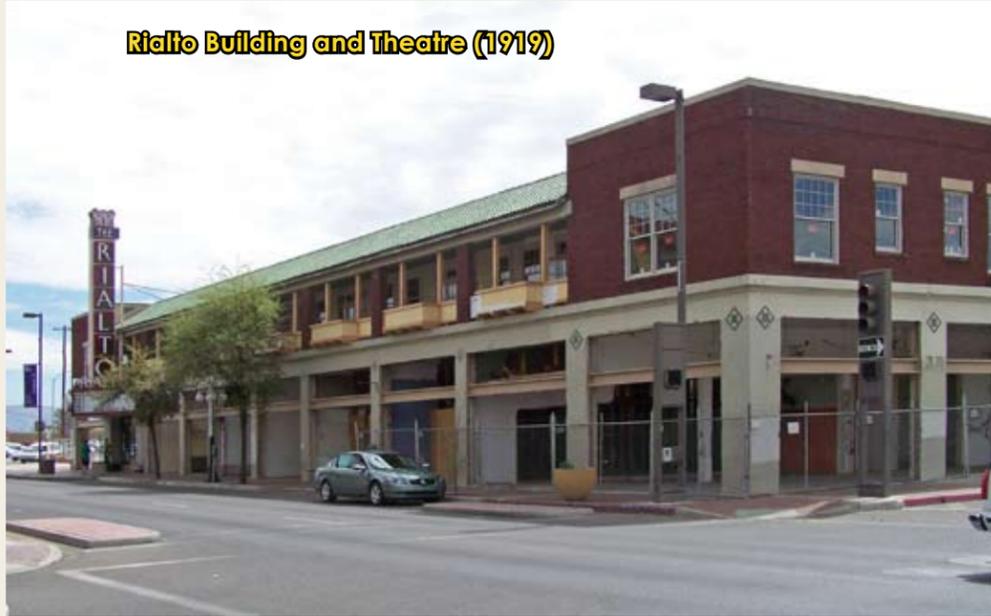
**Legend**

<span style="display:inline-block; width:15px; height:15px; background-color: #f8d7da; border: 1px solid #c3e6cb;"></span> National Register of Historic Places	<span style="display:inline-block; width:15px; height:15px; background-color: #fff3cd; border: 1px solid #ffeeba;"></span> Eligible or Potentially Eligible Property	<span style="display:inline-block; width:15px; height:15px; background-color: #d1ecf1; border: 1px solid #bee5eb;"></span> Historic District
<span style="display:inline-block; width:15px; height:15px; background-color: #fff3cd; border: 1px solid #ffeeba;"></span> Currently on National Register	<span style="display:inline-block; width:15px; height:15px; background-color: #fff3cd; border: 1px dashed #ffeeba;"></span> Potential for restoration to historic appearance/N.R. eligibility	<span style="display:inline-block; width:15px; height:15px; background-color: #d1ecf1; border: 1px solid #bee5eb;"></span> Historic District Contributing Property

Historic Resources of Downtown Tucson



**Rialto Building and Theatre (1919)**



**The Arizona Hotel Building on 6th Avenue (1917)**



Historic buildings in the Congress District study area include the Southern Pacific Train Depot, built in 1907 and recently restored to its 1941 expanded configuration, and nearby hotels built to serve railroad passengers, including the Heidel Hotel/MacArthur Building (1908), Arizona Hotel (1917), Lewis Hotel/Julian-Drew Building (1917), and Hotel Congress (1919). The Congress District also includes historic architecture related to entertainment (Rialto Theatre, 1919), rental housing (Rialto Building, 1919), and general and special merchandising (Chicago Store, 1903; First Hittinger Block, 1901). Most of the historic buildings abut the sidewalks (have zero setback) and are two-story, with large windows on the street level and more private upper levels for uses such as offices.

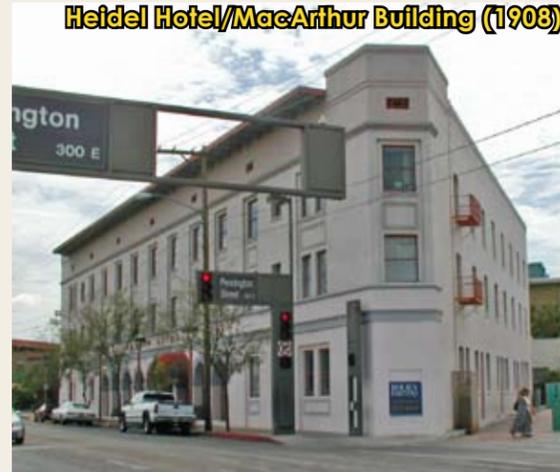
**Sears Building on 6th Avenue (1940)**



**Reilly Funeral Home (1908/1935)**



**Heidel Hotel/MacArthur Building (1908)**



Architectural styles influencing the historic building facades include Art Deco, Chicago-Classical, and early 20th century revivals of Spanish Colonial, Neoclassical, Italianate, and Italian Renaissance styles, and mixtures of those styles.

**Train Depot on Toole Avenue (1907)**



**Hotel Congress (1919)**



ADAPTIVE RE-USE OF HISTORIC BUILDINGS

Historic buildings can be rehabilitated respectfully for new uses, taking advantage of their historic visual characters.



The First Hittinger Block building, constructed in 1901 in the Italianate style, was recently rehabilitated for housing and commercial mixed use. The street level is a contemporary design that is differentiated but compatible with the historic facade revealed after removing a thick stucco coating added in the 1940s.

DESIGNING HIGHER DENSITIES AROUND HISTORIC BUILDINGS AND STREETSCAPES

The characters of historic buildings and streetscapes can be retained by building higher above the back parts of buildings.



In Washington D.C., the historic streetscape is retained, providing visual character and ambience to the compatible, higher-density new construction behind.



DESIGN CUES FROM HISTORIC FACADES

The facade design strategy on page DM66 encourages borrowing elements from the past. An example is the recently constructed Pennington Street Garage, which has Art Deco design elements to make it compatible with the Art Deco facades of the adjacent Sears Building (1940) and Reilly Funeral Home (building 1908, facade added in 1935).



II. HISTORIC ELEMENTS AND COMPATIBLE DESIGN

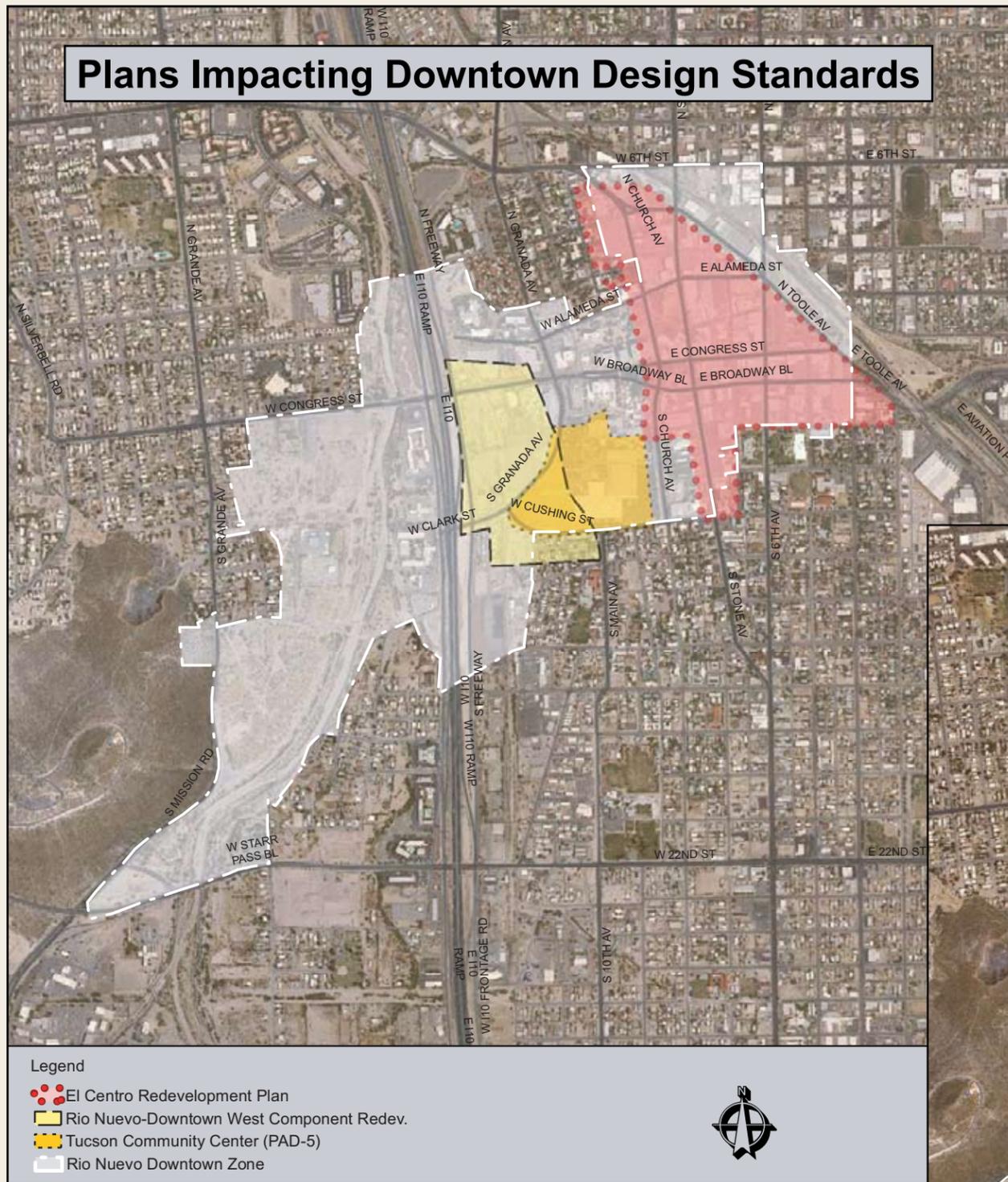
DESIGN STANDARDS

Special zoning and plans affect design standards and demolitions of historic buildings in the Downtown area.

The Rio Nuevo and Downtown Zone (RNDZ) is an overlay zone that provides guidelines for treatment of buildings, signs, and other structures that are more than 40 years old and which are listed on, or eligible for, the National Register of Historic Places. In this zone, proposed exterior modifications, additions, and demolitions of historic buildings are reviewed on a case-by-case basis according to the procedures described in the City's Land Use Code sections 2.8.10 and Development Standards sections 9-08.3 and 9-10-0.

*Modifications to the exterior of historic buildings shall complement the overall historic context of the Downtown and respect the architectural integrity of the historic facade (LUC 2.8.10.5).*

*For structures on, or eligible for designation on, the National Register, uses shall be accommodated without altering the historic character-defining features of the structure (LUC 2.8.10.6).*

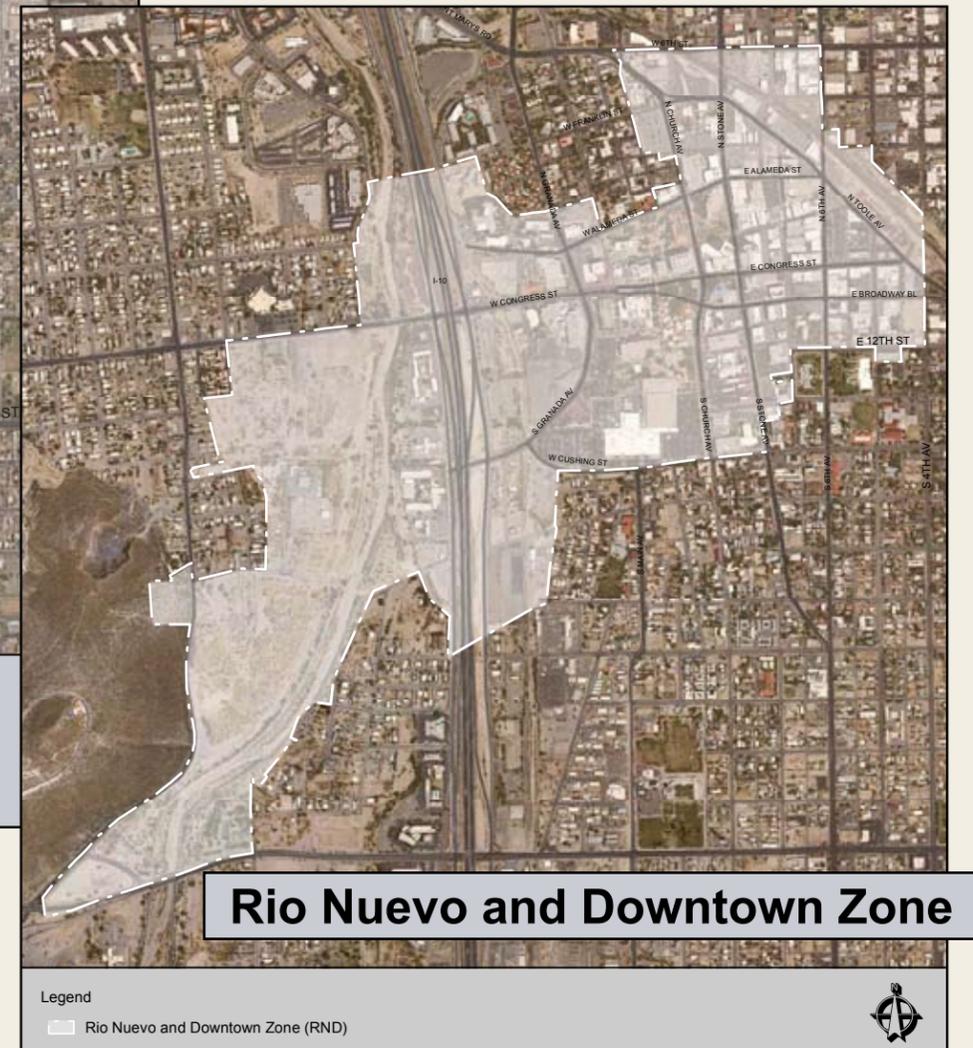


As shown in this map, a number of regulations and plans affect design standards and treatments of historic buildings in the Downtown area.

DEMOLITIONS

Applications to demolish a building within the RNDZ that is listed on, or eligible for, the National Register of Historic Places is reviewed by the Plans Review Subcommittee of the Tucson-Pima County Historical Commission, which forwards a recommendation to the City Building Official (the Director of Development Services). The Building Official makes a recommendation to the Mayor and Council, and they make the final decision.

To obtain approval for demolition, the applicant must demonstrate one or more of the following for the building: 1) it poses an imminent safety hazard; 2) its loss will not adversely affect the integrity of a national or local historic district; 3) the situation imposes an unreasonable economic hardship on its owners; 4) the building no longer has a viable economic use, even if it is rehabilitated for a new use.





**Chicago Store on Congress and Sixth Avenue**



**Storefront on Commercial Building (1928) on Congress**



**Hittinger Block Building Restoration on Congress**

INCENTIVES FOR PRESERVATION AND ADAPTIVE RE-USE

The Downtown Tucson Facade Improvement Program, jointly administered by the City and the Downtown Tucson Partnership, assists property owners and tenants in restoring the facades of commercial buildings built before 1948 and located within the area bounded by Pennington Street on the north, Broadway on the south, Church Avenue on the west, and Toole and Herbert avenues on the east.

The purpose of the program is: 1) to assist in the preservation or restoration of the historic visual character of older buildings; 2) to improve the appearance of downtown streetscapes in anticipation of the arrival of the street car; and 3) to encourage retention of existing tenants and attract new tenants to Downtown.

The program provides funds to property owners or tenants to assist restoration of the principle face elevations of historic buildings. Funding is in the form of interest-free, forgivable, 10-year matching loans up to \$125,000 for corner properties, and up to \$90,000 for mid-block properties. Up to \$7,500 in additional funding is available for developing a restoration concept and cost estimate. In exchange for the City funding, the property owner agrees to convey a 10-year facade easement.

Projects are selected through a two-step, competitive application process. The City evaluates and scores applications using project selection criteria, including historical and architectural significance, retention of major elements of the original facade, and visual prominence. For more information, contact the Downtown Tucson Partnership at (520) 547-3342 or [info@downtowntucson.org](mailto:info@downtowntucson.org).

If facade improvements on historic buildings follow federal standards for historic restoration or adaptive reuse (rehabilitation), property owners also may be eligible for a 20 percent Federal Rehabilitation Income Tax Credit for substantial rehabilitation, and eligible for 1 percent assessments on any improvements under the State Historic Property Tax Reclassification Program. If a perpetual facade easement is conveyed to the City or a non-profit organization, then the property owner also may deduct the value of the easement as a charitable donation. Older buildings that are not eligible for listing on the National Register of Historic Places may be eligible for a 10 percent Federal Rehabilitation Tax Credit for substantial rehabilitation of non-historic, non-residential buildings built before 1936.



PART III

CONGRESS DISTRICT  
DESIGN MANUAL

---

Prepared for:  
**City of Tucson**

Prepared by:  
**Swaback Partners**



SWABACK PARTNERS *inc.*  
Architecture & Planning

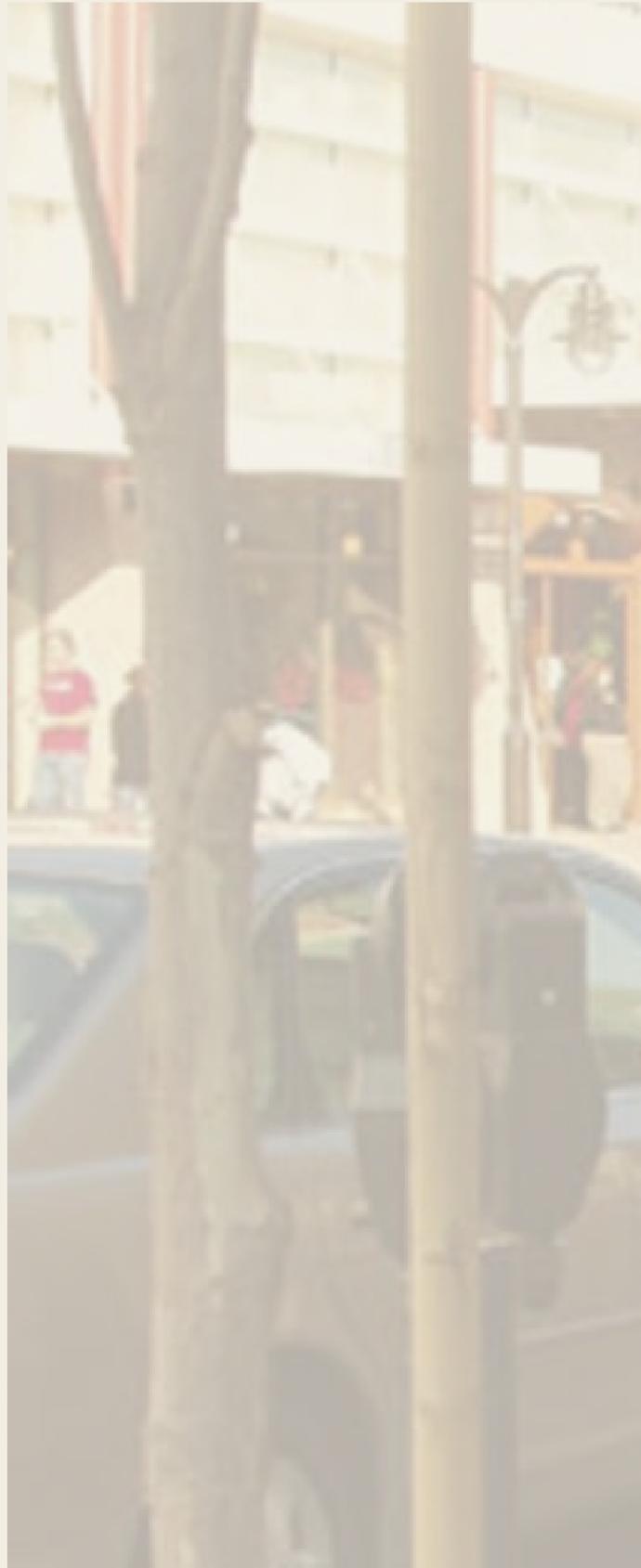
December 2007

---

Section One

# Introduction

---



## PURPOSE

Downtown Tucson and the Congress District are in the early stages of redevelopment and transformation. Both public and private entities are planning significant changes in the built environment including new residential and commercial buildings and improvements to the transportation infrastructure. The Congress District has the potential to become a rich and diverse mix of uses with an emphasis on history, urban living, and the arts and entertainment. The quality of the pedestrian environment and the architecture that defines it is critical to the success of public and private redevelopment efforts.

The "Congress District Design Manual" (The Design Manual) was prepared for the City of Tucson as part of a pilot planning and design study for the Fourth Avenue Underpass Redesign Project. The purpose of the Design Manual is to guide future public and private design decisions related to the redevelopment and revitalization of the Congress District. This document is intended to provide ideas and recommendations related to urban design, architecture, and streetscapes. In addition, this Design Manual is intended to be used as a tool to shape future development in a manner that results in a more livable and more economically and environmentally sustainable community.

The goal of the Design Manual is to assist in making the development process more conducive to those projects and people who want to raise the bar with respect to the very best in urban design. The illustrations and descriptions represent design intent. Other solutions may be acceptable if they comply with the intent of this document. Although some illustrations are meant to show a specific design element i.e. architecture, lighting, etc., any accompanying element within the illustration such as landscaping while part of the illustration are not necessarily suggested as appropriate for Downtown Tucson. The City of Tucson will use this Manual as a reference for the design of their capital improvement projects and when private plans for development are submitted for review and approval. The Design Manual and accompanying illustrations are not meant as finite solutions but rather, as a series of design ideas that express our collective aspirations for the future.

The Design Manual includes a definition of the overall vision for the area's future and it establishes specific architectural and streetscape design strategies for the following:

- Overall Placemaking Strategies such as gateways, pedestrian linkages, land use, and context sensitive design
- Architectural Style, Materials, and Features
- Creating Spaces (Building to Street Relationships)
- Street Design
- Paving
- Lighting
- Site Furnishings
- Planting

## BACKGROUND

### PLANNING AND DESIGN PROCESS

This Design Manual is the product of a planning and design process that included the following:

- meetings with city staff
- site visits, photography, and inventory of existing information
- review of proposed projects in the study area
- mapping and analysis of existing conditions and design opportunities
- planning and design concept studies
- preparation of the Design Manual

The following is a brief summary of key information obtained during the inventory of existing conditions:

### HISTORIC RESOURCES

The area retains much of its historic character and design including several significant buildings such as the Train Depot (1907), Hotel Congress (1919), MacArthur Building, Rialto Theater, and the Julian-Drew Building. Existing brick sidewalks contribute to the historic image of the area. Several buildings in the District appear to have the potential to be restored.

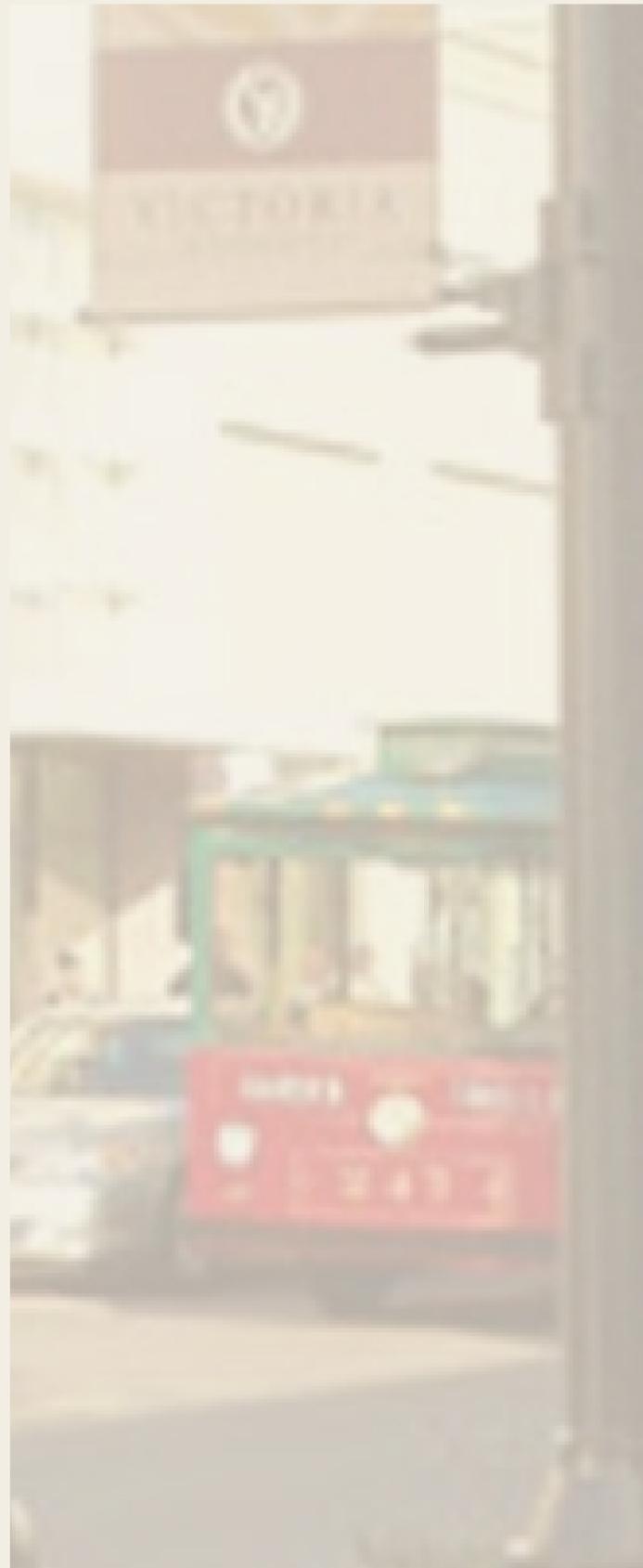
### CURRENT & FUTURE LAND USE

The study area contains a mix of historic buildings, newly renovated structures, vacant buildings, surface parking lots, and disparate uses. There is a general lack of vitality conveyed by a number of poorly maintained buildings and sidewalks. However, there are encouraging signs that the area is improving including the renovated historic Train Depot, The Congress Hotel, Rialto Theatre, MacArthur Building, and the planned development of several mixed-use mid-rise residential condominium projects such as the Santa Rita Hotel.

With the renovation of The Congress Hotel and the Rialto Theatre, Congress Street possesses two significant entertainment venues that anchor the entertainment district. Entertainment uses complement other uses in the District such as cafes and coffee shops. Entertainment uses tend to project a trendy, artsy appearance in the architecture and this image is sometimes in conflict with the historic character. Redevelopment and architectural renovation should be compatible with historic structures in the study area, or they should be contemporary expressions of sustainable regional architecture.

Mixed-use residential projects appear to be heading towards the area. The Martin Luther King Building, The Post, Santa Rita Hotel, and The 44 are examples of planned mixed-use developments. In order to capitalize on these trends, the area needs to improve its pedestrian environment and public spaces. In addition, the area is in dire need of new retail establishments that provide for the needs of the residents as well as visitors. Neighborhood uses, such as grocery stores, should be encouraged to locate in the area. Retail and entertainment uses are critical to creating active, pedestrian-oriented streetscapes.





## BACKGROUND, CONT.

### PEDESTRIAN EXPERIENCE

The area is generally conducive to pedestrians due to the historic street and block pattern, and because the most active building facades are not set back from the right-of-way. An extensive network of sidewalks is prevalent throughout the area. The narrow sidewalks are part of the historic character of Downtown Tucson but most of them are too narrow to allow sidewalk cafes or sidewalk merchandising. Many sidewalks are in need of repair as evidenced by broken tree grates, and concrete that has been uplifted by tree roots. Street trees are generally small or missing altogether, although Congress Street itself benefits from a number of mature Live Oak trees. Pedestrian amenities such as benches, flowerpots, banners, signage, and pedestrian lighting are lacking and/or inconsistent in their design.

The renovation of the Train Depot and the Rialto Theatre, together with the planned extension of the trolley line, are making the area attractive for new forms of residential, retail, and office development. It also appears that the area is attracting museums, art galleries, artist studios, and entertainment uses such as restaurants, bars, and nightclubs. This trend could be enhanced by further investment in the quality of the pedestrian environment including streetscapes, facade treatments, and complementary land uses.

### PUBLIC REALM

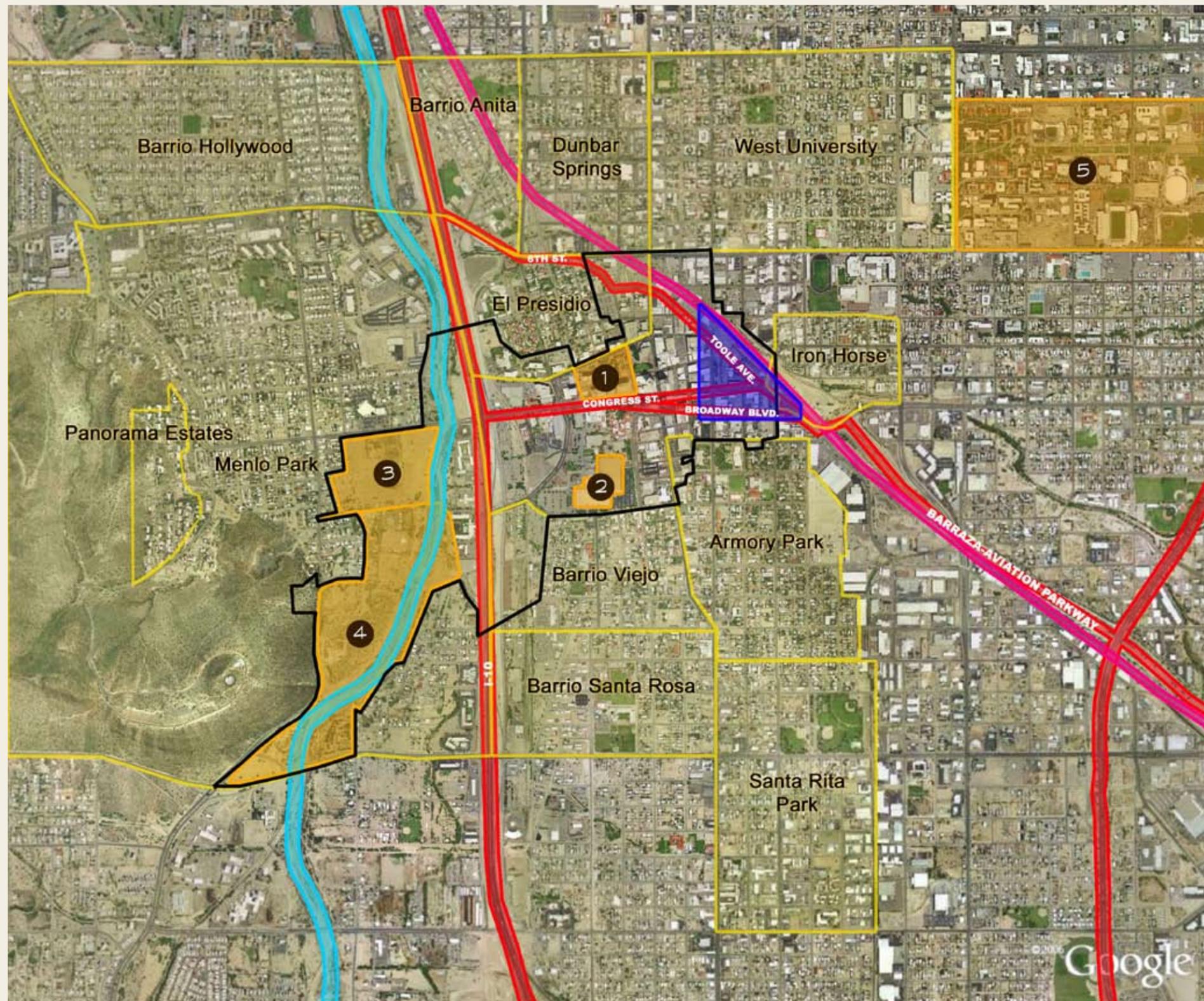
There is a noticeable lack of quality public spaces such as small plazas, courtyards, and other gathering spaces in the study area. These spaces are needed to create a more livable city by introducing natural elements such as desert landscaping and water features into the urban environment. Quality public spaces will attract more residents and visitors to the area. There is also an opportunity to provide more public art. The existing murals and custom designed bus shelters are making an important contribution toward establishing the area as a special district. Future projects should include public art installations and artist designed elements.

### CONTEXT MAP

The Context Map on the following page shows the Study Area in context with the major transportation corridors, adjacent neighborhoods, places of interest, and the boundary for the Rio Nuevo Area. (See Context Map page DM26).

### STUDY AREA BOUNDARIES

The Congress District is situated at the eastern edge of downtown Tucson. It is bounded on the north and east by the railroad, on the south by the Armory Park Historic Neighborhood, and on the west by the Convention Center and high-rise office buildings. (See Aerial Study Area Boundary Map page DM27).



CONTEXT MAP

LEGEND

- Site
- Places of Interest
- Major Vehicular Routes
- Railroad
- Santa Cruz River
- Neighborhood Districts
- Rio Nuevo Area

KEY

- 1 City Hall
- 2 Convention Center
- 3 Proposed Cultural Center
- 4 Proposed Nature Park
- 5 University of Arizona

AERIAL STUDY AREA BOUNDARY MAP



Study Area Boundary



Influence Area Boundary



## DESIGN PHILOSOPHY AND PRINCIPLES

Based upon the preceding observations and evaluation of existing conditions and design issues and opportunities, five Design Principles for the Congress District were developed. They are:

1. Create an urban neighborhood district that includes such features as walkability, transit-oriented, mixed-use, a safe and comfortable pedestrian environment, and an aesthetically pleasing street scene.
2. Environmentally sensitive and sustainable design solutions are encouraged such as storm water retention plantings, permeable pavers, and native/xeric landscaping.
3. Enhance the District's historic image and character through the use of appropriate colors, materials, and design details. Historic replication is discouraged in favor of contemporary designs that are inspired by traditional precedents.
4. Simplicity, durability, and low maintenance materials are preferred over complex and trendy solutions.
5. Encourage tourism and the continued development of an arts and entertainment district through the use of unique educational and regionally appropriate elements. Custom design or "artist designed" furnishings or other components of the streetscape are encouraged.



Section Two

# The Vision

---



Aerial perspective illustration of the Vision Plan.

**The Vision Plan.****THE VISION**

The City of Tucson is at a unique juncture in time where the opportunity to greatly enhance the character of the "Congress District" has presented itself through current and future planned development projects. Thus a vision of a "vibrant urban neighborhood" has manifested.

This vision has emanated from the great efforts of city and civic leaders, city staff, citizens, and other professionals needed to implement the key ideas.

The procedure for realizing this vision entails:

- Identify key public realm infrastructure improvements
- Initiate public driven redevelopment
- Coordinate current private development initiatives
- Influence future redevelopment through policy, standards, and procedures
- Make recommendations for future redevelopment

**The Vision Plan:**

The Vision Plan incorporates a thoughtful assimilation of design strategies, creating a framework solution. Its intention is not as an absolute solution but an example of what could be the aspirations of all involved. The Vision Plan considers the following:

- A combination of redesigned existing structures and new development
- Streetscape enhancement
- Key open space locations which include a district park and a linked esplanade along Congress Street
- Proposed development projects
- Redesign of the Ronstadt Transit Terminal
- Mixed-use Greyhound Bus Center
- Multi-modal facility

***"The point of cities is multiplicity of choice."***

***- Jane Jacobs***

## THE VISION

The recipe for this 24-hour mixed-use neighborhood, "a vibrant urban neighborhood," involves six (6) key ingredients:

### 1) Placemaking

Create a pleasurable experience by creating a fabric of elements unique to this neighborhood, while respecting the historical integrity, and complementing the adjoining neighborhoods. Elements such as gateways, corridors, enhanced street corners, infill structures, and open space will lay the foundation for this vibrant urban neighborhood.

*"The test of civilization is the power of drawing the most benefit out of cities."*

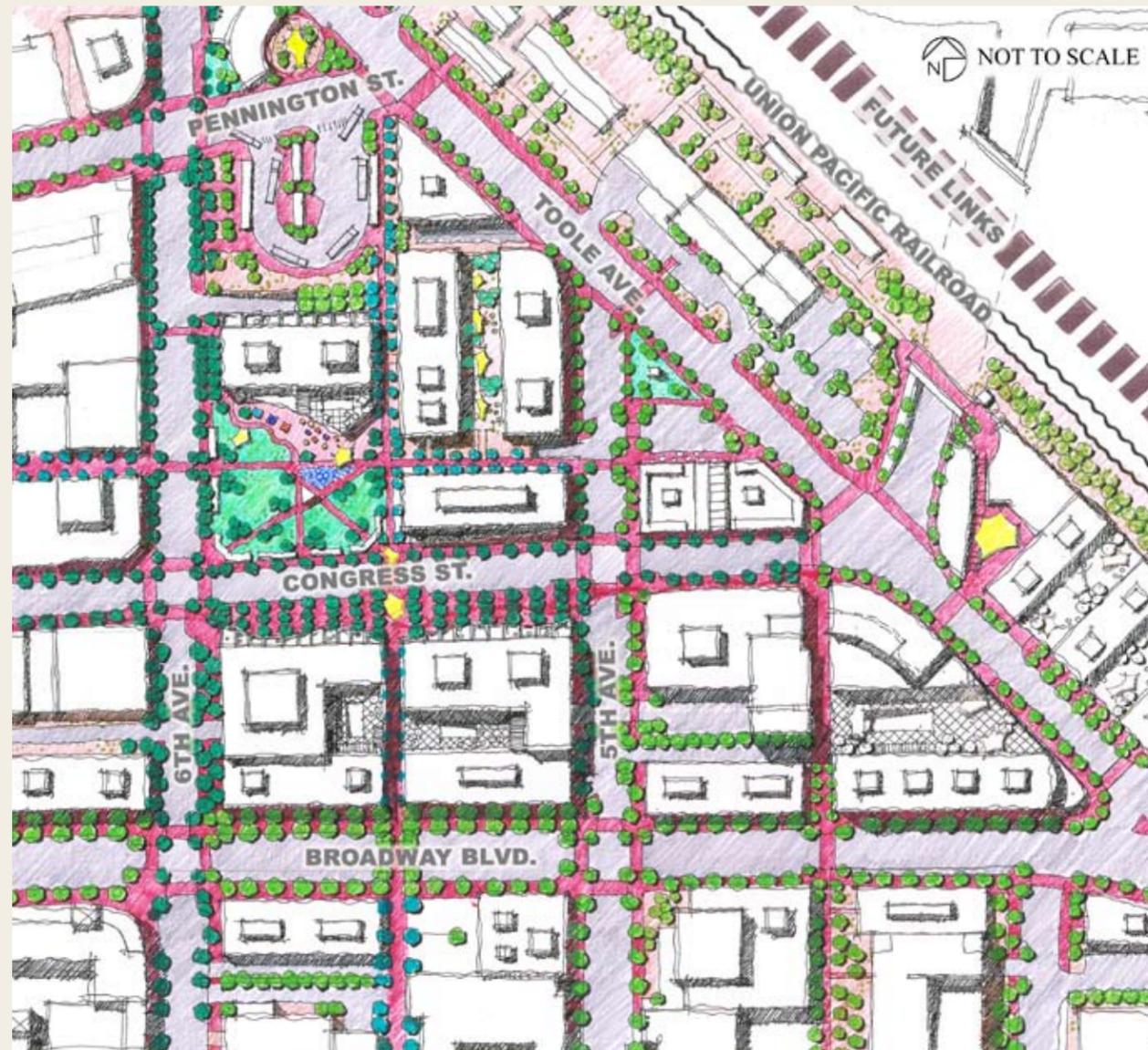
- Ralph Waldo Emerson

### 2) 24-hour Environment

Infusing a 24-hour environment relies on a thoughtful and balanced integration of mixed uses. These uses should be arranged into two major east-west corridors and a series of north-south corridors. The Congress Street Corridor should have a contiguous retail experience at street level, with a vertical mix of uses above (i.e. office over retail or residential over retail). The Broadway Boulevard Corridor, an "urban transition zone" to the Armory Park neighborhood, should be primarily residential with strategically placed neighborhood oriented retail/commercial.

### 3) Variety of Urban Living

A broad array of housing product types are paramount to the success of a vibrant urban neighborhood. Housing should consist of a broad price spectrum, allowing a diversity of residents the opportunity to live in the Congress District. Current development projects such as The Depot Plaza, Plaza Centro and Santa Rita are examples of the public and private sector's commitment to achieving this. The variety of product typologies can be utilized within the organization of "The Corridors." The residential types along the Broadway Corridor may be rowhouses, townhomes, brownstones, lofts, and clustered stacked flats.



Townhomes and rowhouses offer a variety of urban living.



Convenient markets provide urban residents with goods and services.

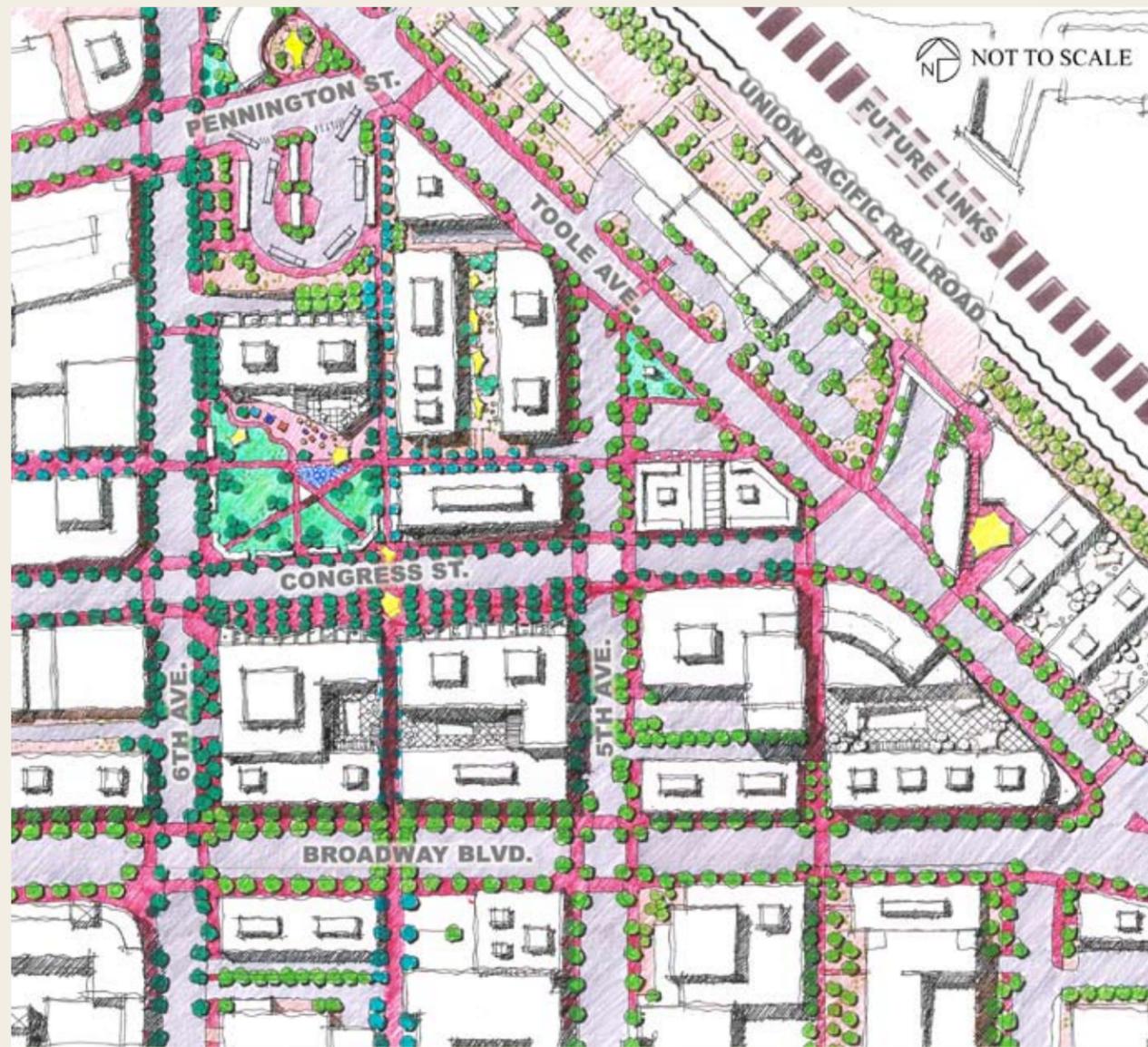


Parks offer urban residents a "place" to gather and identify as part of their neighborhood.



Condo residences provide a higher density living opportunities.





Mass transit should be part of the development opportunities of the district.



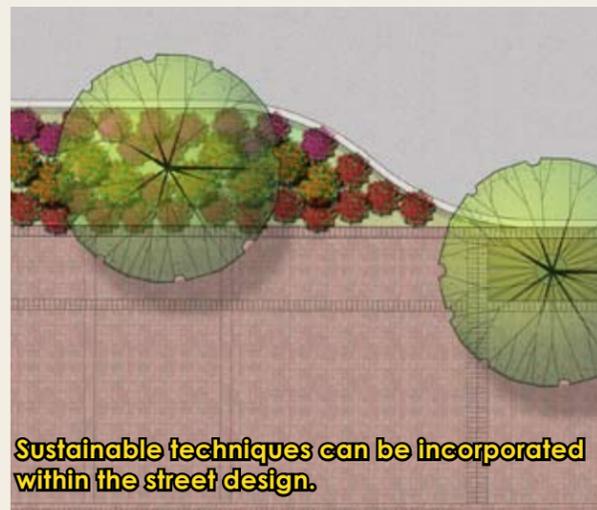
Festivals and street markets will provide opportunities for the community to gather.



Rowhouses offer residential opportunities within an urban district.



Buildings should take advantage of green design technologies.



Sustainable techniques can be incorporated within the street design.

**3) Variety of Urban Living, cont.**

The residential experience along the Congress Street Corridor may be low and mid-rise stacked flats, garden terrace condominiums and urban lofts, which harmonize with the downtown Central Business District.

**4) Infrastructure Improvements**

Improving infrastructure shall be an essential strategy to enhancing the character of the Congress District. Completion of current infrastructure improvement projects such as the Downtown Links, the introduction of the modern streetcar and re-construction of the Fourth Avenue Underpass will be a pivotal point in the neighborhood's history. These infrastructure improvements could result in a reduction of passengers and transfers at the Ronstadt Transit Terminal. In effect, a reduction/redesign of the terminal could allow for a district park and mixed-use complex, respecting the theme of the Congress Street Corridor. At a minimum, enhancing the streetscapes would improve the overall aesthetic quality of the Congress District.

**5) Progressive Programming Agenda**

A progressive programming agenda entails a public/private partnership to program community events, "activating the district."

- Street fairs
- Farmers markets
- Arts festivals
- Celebrations
- Concerts
- Other special events

**6) Sustainable Design Approach**

Sustainable design practices should be an integrated component of the design and visioning process in order to strategically minimize impacts on the environment and relate the community with their natural environment.

*"Study nature, love nature, stay close to nature. It will never fail you."*

- Frank Lloyd Wright

**THE PROCESS**

In order to establish the design strategies and solutions set forth in this manual, a thoughtful urban design process was implemented. This process, as described below involves methodically collecting data, analyzing information, studying comparable thriving districts, examining design strategies, and thoughtfully creating a vision plan.

**Inventory and Observations**

The process began with understanding the complex fabric of the study area by collecting data such as:

- Historical planning
- Parking information
- Property ownership
- Existing land use
- Existing zoning
- Proposed development projects
- Historical and historically eligible buildings
- Building heights
- Traffic observations
- Pedestrian patterns

**Analysis and Synthesis**

The data was analyzed to determine opportunities and constraints related to the vision of a “vibrant urban neighborhood.”

**Case Studies**

Successful urban districts were scrutinized to determine design strategies essential to the six (6) key ingredients. The diverse mix of urban districts that were examined include:

- University Park in Cambridge
- The Commons, Denver
- LoDo, Denver
- The Gateway, Salt Lake City
- Santana Row, San Jose
- The Pearl District, Portland
- Lloyd's Crossing, Portland





## THE PROCESS

### Design Strategies

A multitude of design strategies were created forming a framework for the vision. These Design Strategies included:

- A system of pedestrian connections
- District open space alternatives
- Residential infill opportunities
- Potential redevelopment sites
- Ronstadt Terminal redesign

### The Vision Plan

The Vision Plan incorporates a thoughtful assimilation of design strategies into a framework solution.

*"Nature is trying very hard to make us succeed, but nature does not depend on us."  
-Buckminster Fuller*



Section Three

# Placemaking Strategies

---

## PLACEMAKING STRATEGIES

Placemaking strategies are intended to create a distinct district. The implementation of the placemaking strategies will distinguish the boundaries in a visual manner that reinforces the sense of arrival and the notion of distinguishable character.

There are five (5) major Placemaking Strategies to create a successful Congress District. They include:

1. Gateways
2. Corridors
3. Street Corners & Critical Street Corners
4. Infill Structures
5. Civic Parks and Plazas

Gateways are landmarks that signify the passage into the district. The gateways will be at major intersections that occur at the perimeter of the study area.

Corridors are the main linkages from surrounding areas into the district. The main east-west corridors within the Congress District are Congress Street and Broadway Boulevard.

Street corners are important within an urban design setting because of the high level of visibility. Some corners are more significant than others and should be more visually enhanced - these corners will be called critical corners.

Infill is the filling-in of lots between existing buildings. Infill should fit in with the existing buildings to create a cohesive district character.

Civic parks and plazas are large areas of open space that will be used for public gatherings and festivities. Every great urban district should at least have one signature civic park or plaza.





### GATEWAYS

Gateways are arrival entry features. They should be located at the major and minor intersections that lead into the District, thereby, denoting the entry into a distinct area.

The Gateways have been classified as major or minor and the recommended locations of each has been exhibited on the adjacent map. The major gateways should be entry points located at high volume intersections and along major streets. The recommended locations for major gateways are:

- Alameda and Toole Ave., the northern entry point
- 4th Ave. and Congress, following the underpass
- Toole Ave. and Broadway Blvd., exiting from the freeway
- Broadway and 6th Ave., heading east from downtown Tucson

The recommended locations for minor gateways are preferred at smaller streets that lead into the district such as 4th Ave. and 5th Ave. leading into Broadway Blvd. and Pennington Street.

#### LEGEND

- STUDY AREA
- MAJOR GATEWAY FEATURE
- MINOR GATEWAY FEATURE

## GATEWAYS

Gateways may take a variety of forms, such as:

- A stand alone tower structure
- Enhanced architectural treatment of a building corner
- An archway or passageway over an intersection
- A significant landscape feature such as a fountain, sculpture, or tensile structure

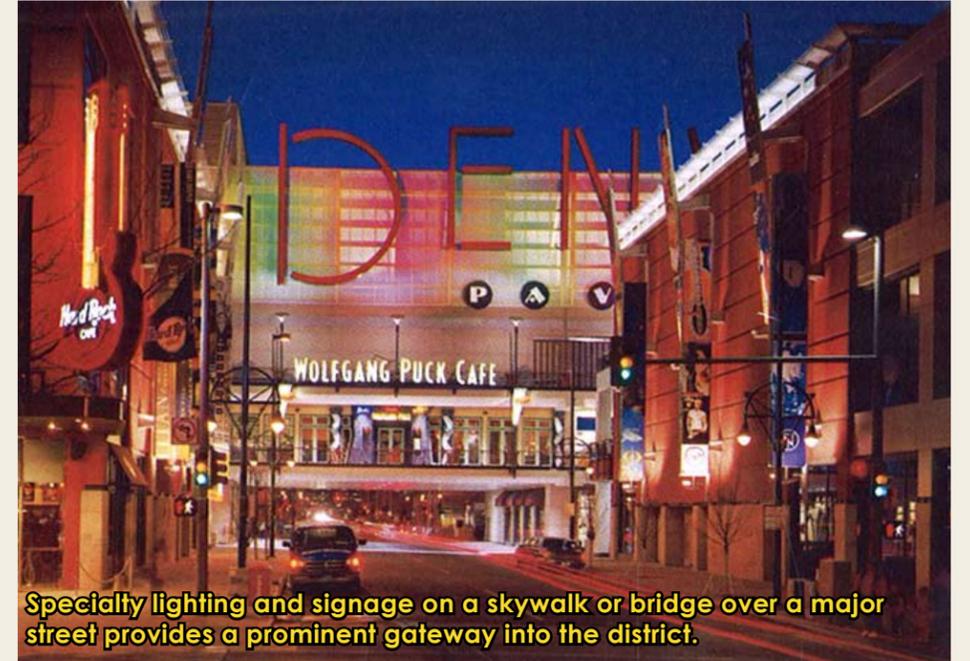
The major gateways should be emphasized through an enhanced orchestration of scale, mass, height, and materials to exhibit prominence as arrival statements for the Congress District. Multiple roof treatments, accent lighting, and prominent signage may also be used as design elements to highlight the entry points.

Major gateways should be more architecturally significant than minor gateways. They should be larger in scale, mass, height, and require more prominent signage and illumination. Major gateways are recommended to be seen from further distances and are oriented toward vehicles.

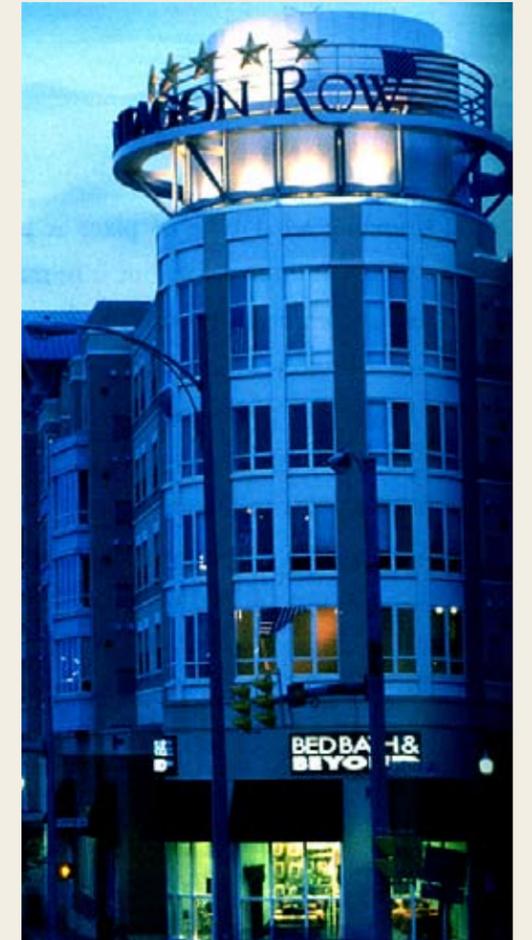
**A large sculptural fountain may be used as a major gateway feature.**



**An illuminated public park signifies an arrival to a destination.**



**Specialty lighting and signage on a skywalk or bridge over a major street provides a prominent gateway into the district.**



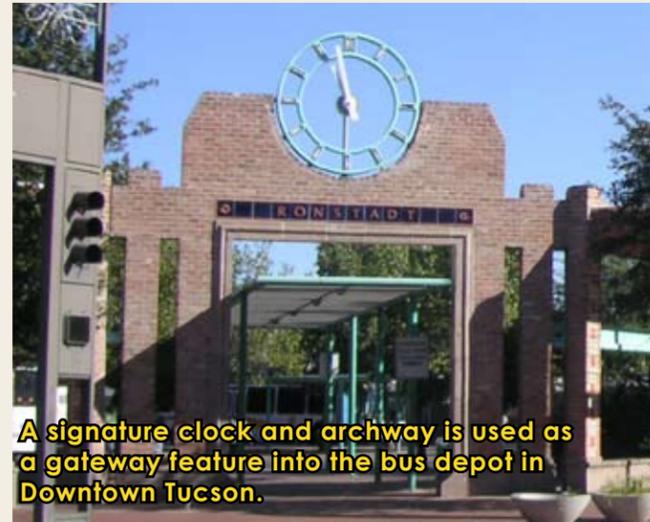
**The use of height, signage, and lighting signify a major entry gateway.**

GATEWAYS

Minor gateways are recommended to be smaller in scale, mass, and height than major gateways. They require a more subtle approach in terms of lighting and signage. Minor gateways are recommended to be scaled towards the pedestrian. They also present good opportunities for public art displays.



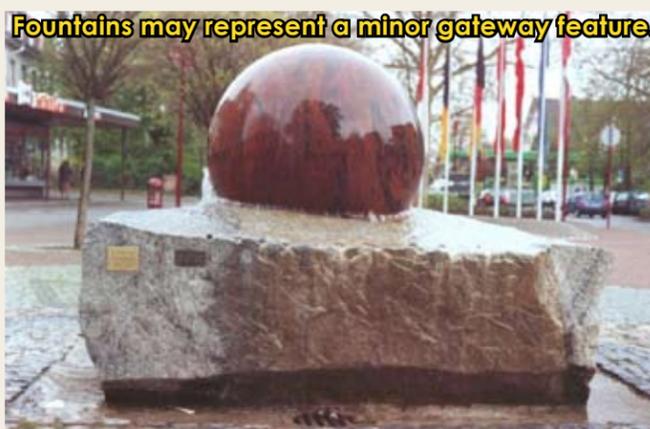
A pedestrian scale architectural element may be used as a minor gateway feature.



A signature clock and archway is used as a gateway feature into the bus depot in Downtown Tucson.



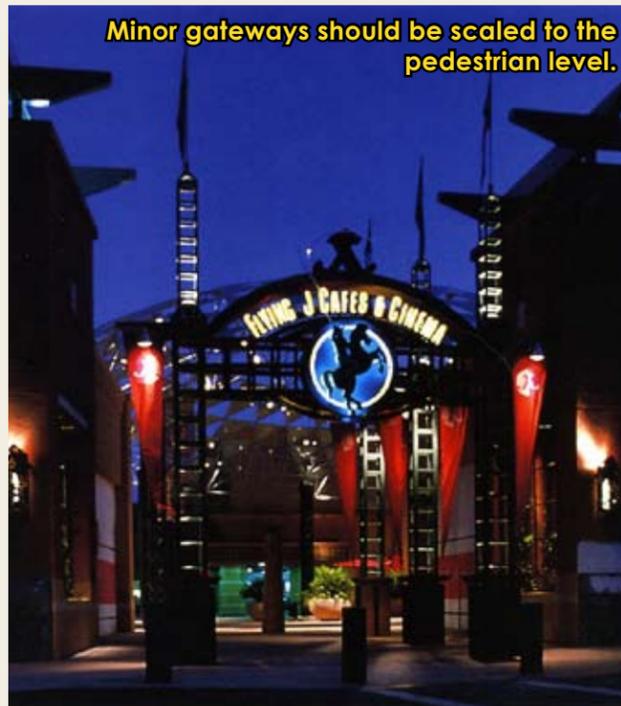
Iconic images on an archway may be used as a pedestrian-scaled gateway.



Fountains may represent a minor gateway feature.



An archway over a minor intersection denotes a gateway.



Minor gateways should be scaled to the pedestrian level.



Courtyards and parks may be used as a minor gateway feature.

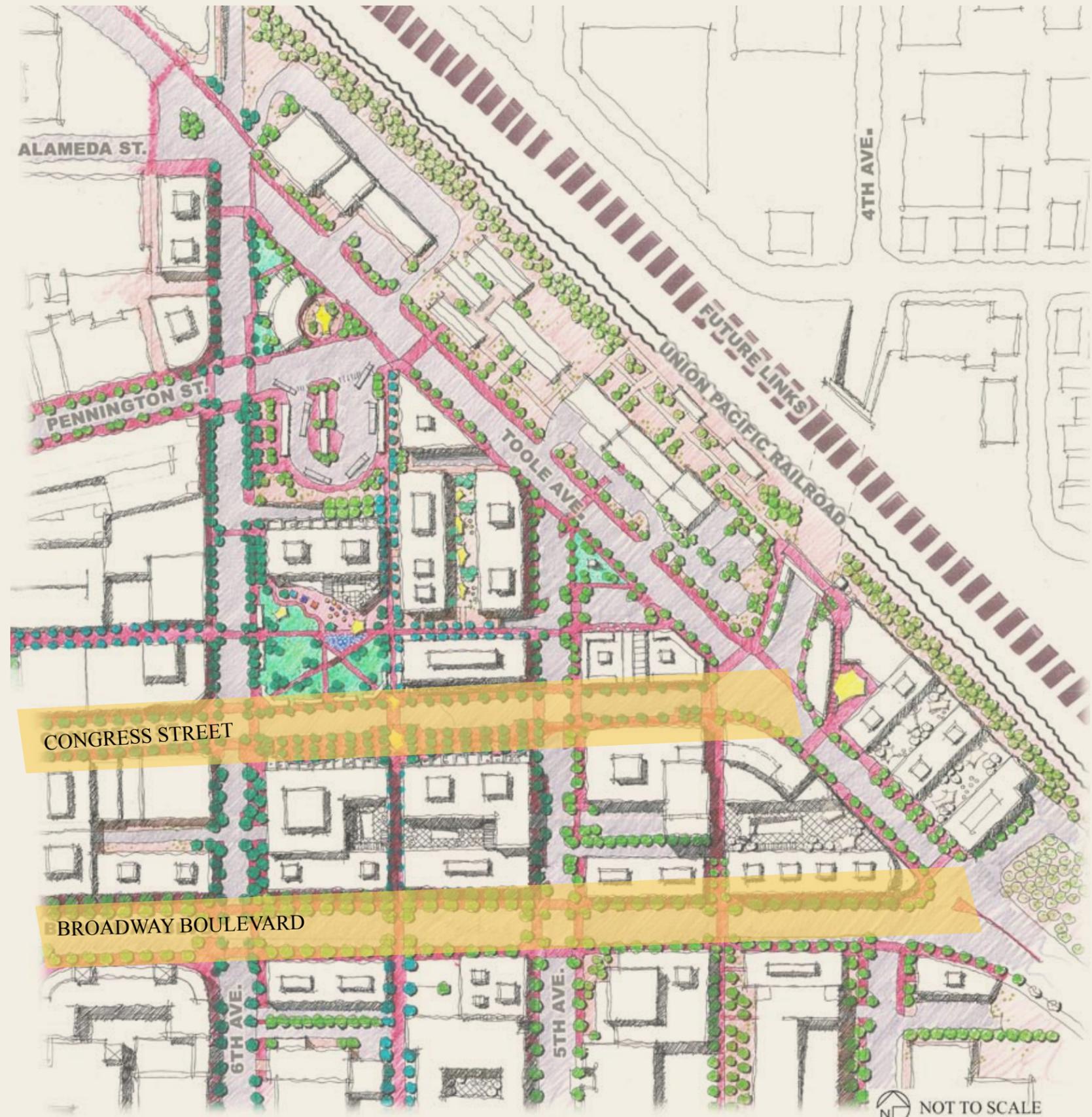
## CORRIDORS

Corridors are linkages to the Congress District from other surrounding areas. The main east-west corridors within the Congress District are Congress Street and Broadway Boulevard.

Already present on Congress Street are the Rialto Theatre and the Hotel Congress. Congress Street is also the main linkage into the downtown area. Because of its strategic location, it is highly encouraged to evolve Congress Street into the entertainment and commercial mixed-use corridor.

On the other hand, Broadway Boulevard is adjacent to a residential area just to the south. It is advisable that Broadway Blvd. become the residential mixed-use corridor to serve as a transition zone.

Each corridor can be defined by its predominant land use which will elicit a distinguishable streetscape character.



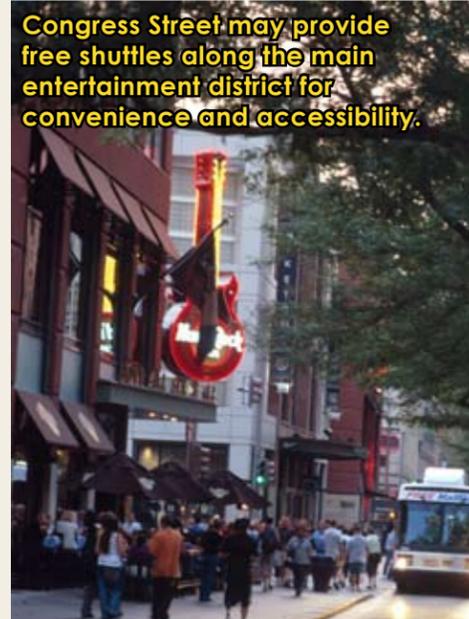
**Residential units should be incorporated within the urban setting to provide a user base for the downtown amenities.**



**Congress Street should incorporate many entertainment and art signature buildings.**



**Congress Street may provide free shuttles along the main entertainment district for convenience and accessibility.**



**Some commercial buildings may use multi-level retail spaces that house multiple tenants.**



### CONGRESS STREET CORRIDOR

Congress Street is the best corridor for the Entertainment, Arts, and Retail District since it currently houses the Rialto Theatre and the Hotel Congress. The Entertainment, Arts, and Retail District is envisioned to be a highly active street with shopping, restaurants, entertainment venues, and art galleries. The commercial uses should be complemented with a significant residential component in order to create a 24-hour active community.

**The character of Congress Street should exhibit a very lively street character with lighting and signage.**



**BROADWAY BOULEVARD CORRIDOR**

Due to its adjacency to a residential neighborhood to the south, Broadway Boulevard is recommended to be the residential mixed-use corridor. It will be a transition from the vibrant entertainment corridor along Congress Street. Medium-high density residential units should front onto the street. The residential units should always engage the pedestrian with some shops, shaded walkways, paths, and stairs that create visual variety and openness towards the sidewalk.

Some small-scale retail seems appropriate for the residential mixed-use corridor and other types of small-scale mixed-use commercial i.e. live-work units and offices. Retail shops should be oriented toward traditional neighborhood services.

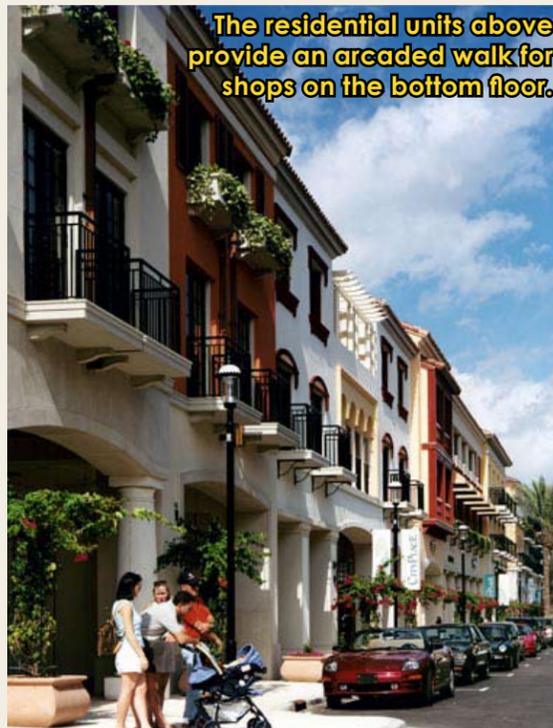
**Live-work units provide office space at the street level with a residential unit above.**



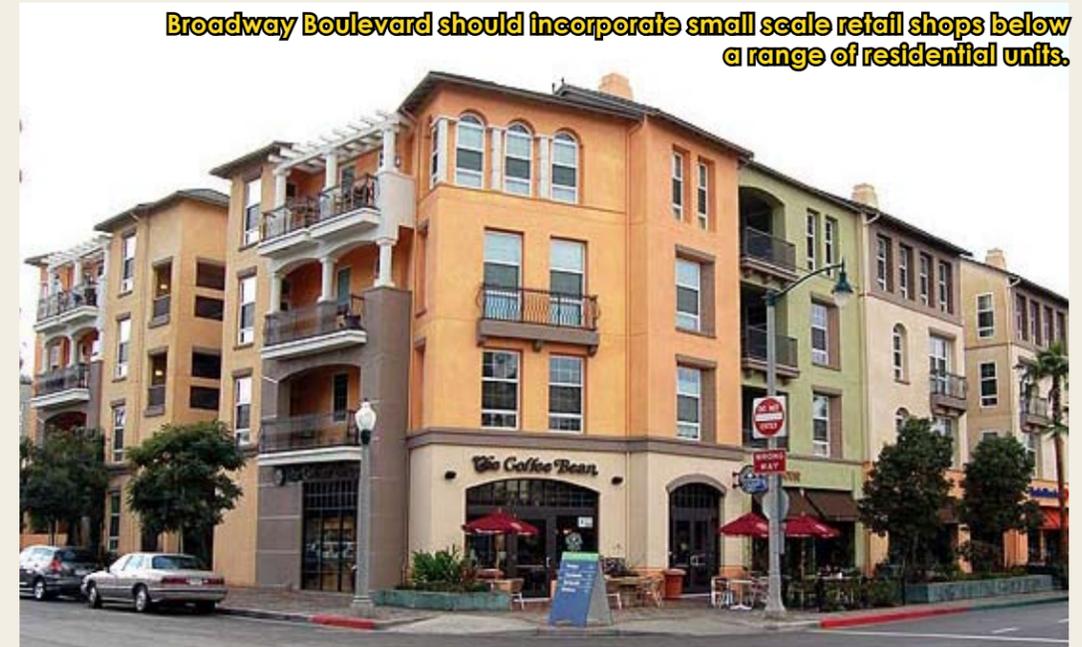
**The sidewalk is activated with shallow setbacks, landscaping, and small paths that lead into residential buildings.**



**The residential units above provide an arcaded walk for shops on the bottom floor.**



**Broadway Boulevard should incorporate small scale retail shops below a range of residential units.**



**Santa Rita is a proposed residential project for Broadway Boulevard that exhibits a streetscape character compatible with the residential mixed-use corridor.**



**Townhomes may front onto the street.**

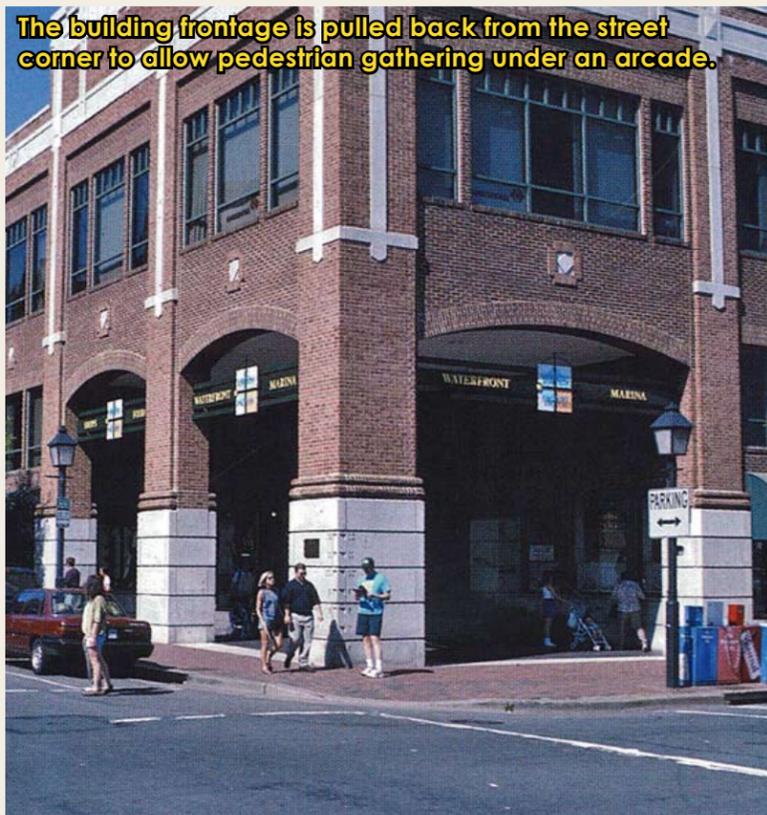


**A building corner is articulated by using differentiating materials and having the upper-story set-back from the corner facade.**



**The convex building at the street corner allows space for public art and pedestrian gathering.**

**The building frontage is pulled back from the street corner to allow pedestrian gathering under an arcade.**



**A curved shaded entry feature occurs at the street corner.**

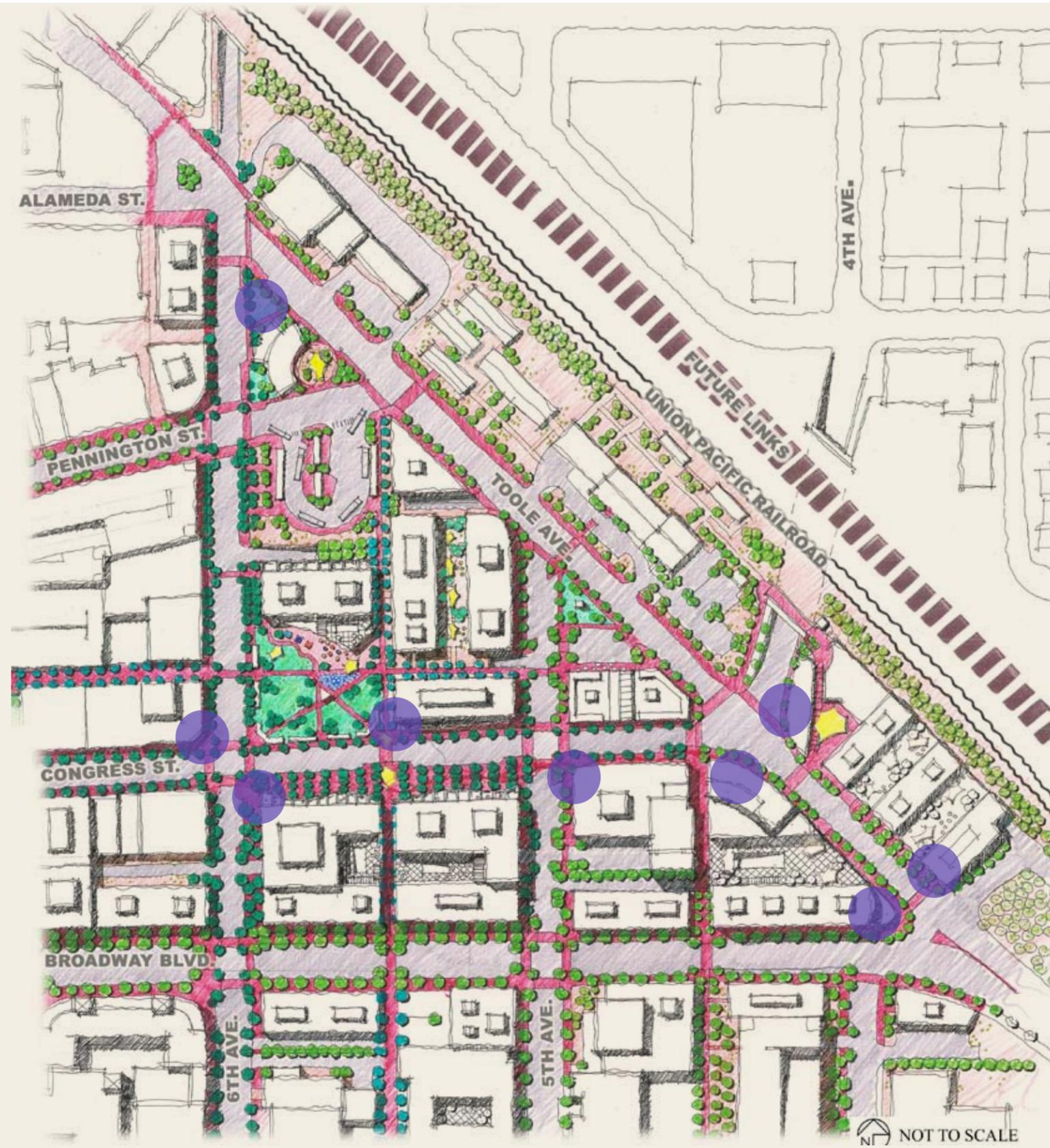


## STREET CORNERS

Buildings that occur at the street corners are important within an urban design setting because of their high level of visibility. They provide an opportunity to create hierarchy and differentiation in the street character. Street corners also provide an opportunity for specialty entry features and shade structures. Height, mass, scale, and accent materials may be used to enhance the street corner. It is recommended that all street corners should engage the intersection by creating a special place.

CRITICAL CORNERS

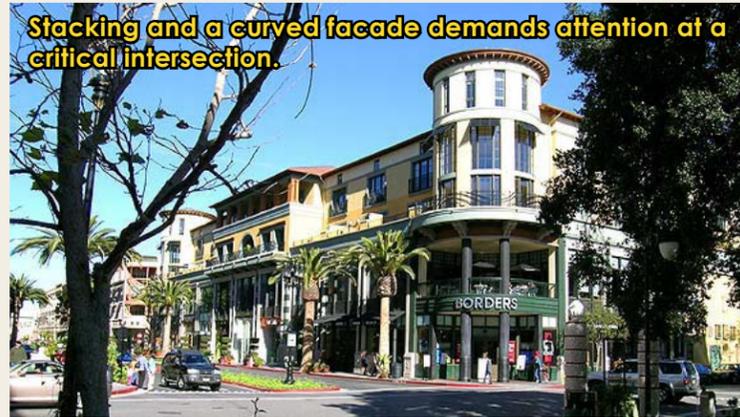
Some corners are more significant than others and should be more visually prominent; these corners will be called critical corners. They often occur at major gateway intersections, terminate a view corridor or occur at major landmarks and open space. Critical corners have a unique opportunity to display interesting architectural features and an enhanced orchestration of scale, mass, height, and materials.

LEGEND

CRITICAL CORNERS

CRITICAL STREET CORNERS

Critical street corners should celebrate the corner condition with an enhanced articulation of the building facade. They should have a significant variety of architectural treatments. These corners should incorporate height and mass that is greater than the adjacent storefronts or residential units.



Stacking and a curved facade demands attention at a critical intersection.



A critical corner should exhibit an architecturally unique building.



Height, material selection, and clerestory articulate a critical corner.



Enhanced height and architectural detailing highlight these critical corners.



The large shade overhang celebrates a critical corner.

**INFILL**

Infill is the fitting-in of new buildings within the fabric of existing buildings. It is recommended that any new building will reinforce the character and the use of the existing or planned infrastructure. There are two (2) levels of "fitting-in." One is fitting-in with the overall, macro-scale, character of the Congress District and its particular corridors. The other is the micro-scale condition of fitting-in a new building in a vacant space next to an existing building.

Fitting-in should balance an orchestration of architectural variety that will create visual interest with compatible uses and design elements. Forms, details, and materials should relate to the surrounding buildings, especially historical/traditional architecture.

Commercial mixed-use infill should maintain a retail/commercial first story with mixed-use residential and office space above. The bottom floor should create interesting variety of window and entryway treatments for storefronts and commercial frontage. The facade treatment along pedestrian zones should emphasize high quality materials with interesting architectural detailing.

Residential mixed-use infill should maintain street-level activity but may not have to incorporate retail frontage. Other strategies may be used such as landscaping, stairs, pathways, and courtyards.

**Infill will be developed within empty lots between existing buildings.**



**Although each building should be unique, some elements or materials should be incorporated into new buildings in order to create a cohesive character.**



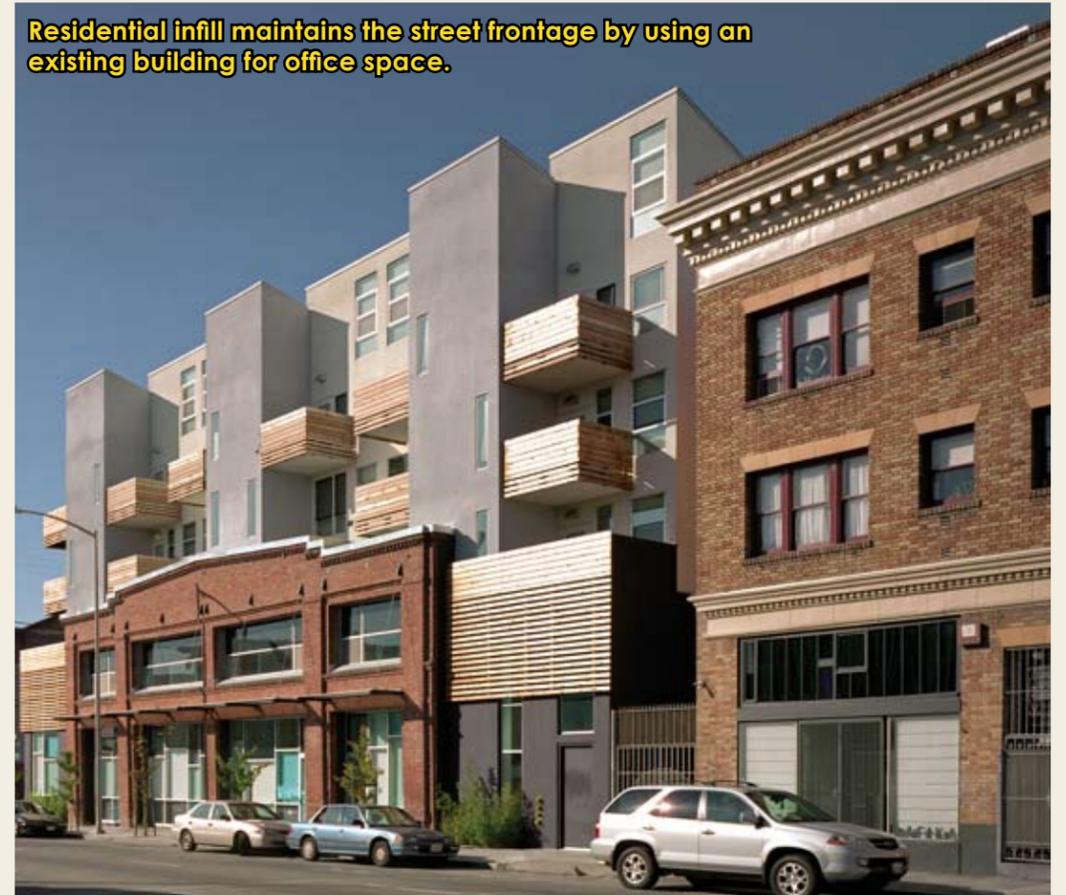
**The Post is a proposed project along Congress Street that maintains a retail space at street level.**



**Commercial mixed-use infill should maintain a retail street frontage.**

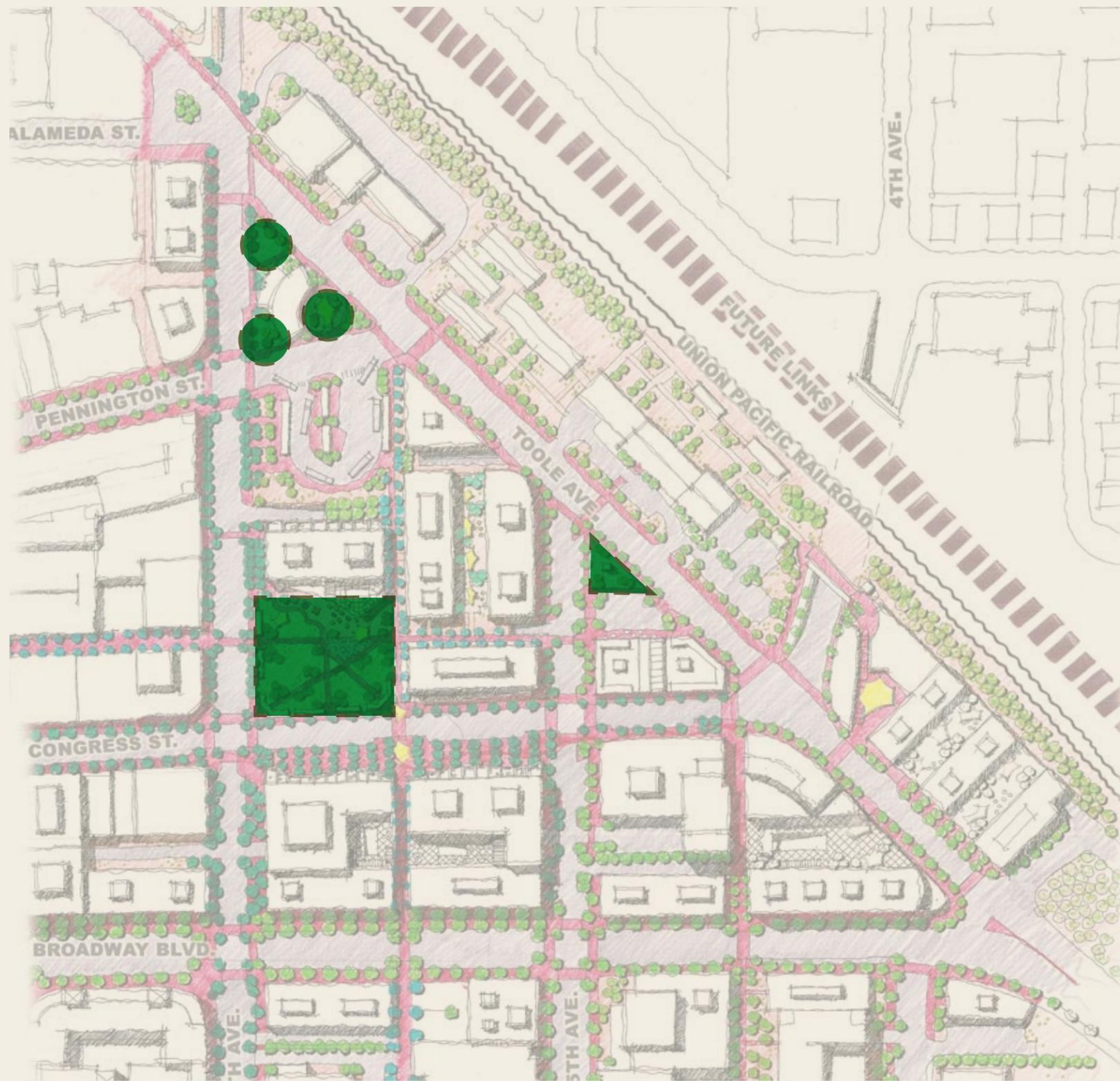


**Residential infill maintains the street frontage by using an existing building for office space.**



CIVIC PARKS AND PLAZAS

Civic parks or plazas are public open spaces within an urban environment. Every great district should have a great civic park or plaza for special events, recreation, respite, leisure, and social interaction. Especially in a dense urban area it is important to provide an outside space to be enjoyed by residents, workers, and visitors. It is highly recommended that Congress District have a significant civic park located in the heart of the district and along a major corridor. With the notion of creating an urban neighborhood - the idea of an urban neighborhood icon park is essential.



LEGEND

 CIVIC PARKS AND PLAZAS

**CIVIC PARKS AND PLAZAS**

The main plaza and park space in the Congress District should be an appropriate size to accommodate an urban congregation. The recommended size is approximately one-half to one acre. It is important that the plazas and parks provide ample shade structures and tree canopies. Public art, landscape features, and sitting areas should be designed to facilitate public exchanges and social interactions. Unique play spaces should be designed.

Unlike any other typical park, the Congress District main plaza and park should have a distinct character that resonates with the surrounding character of Congress Street. It should be treated as a signature feature of the entertainment / arts theme.



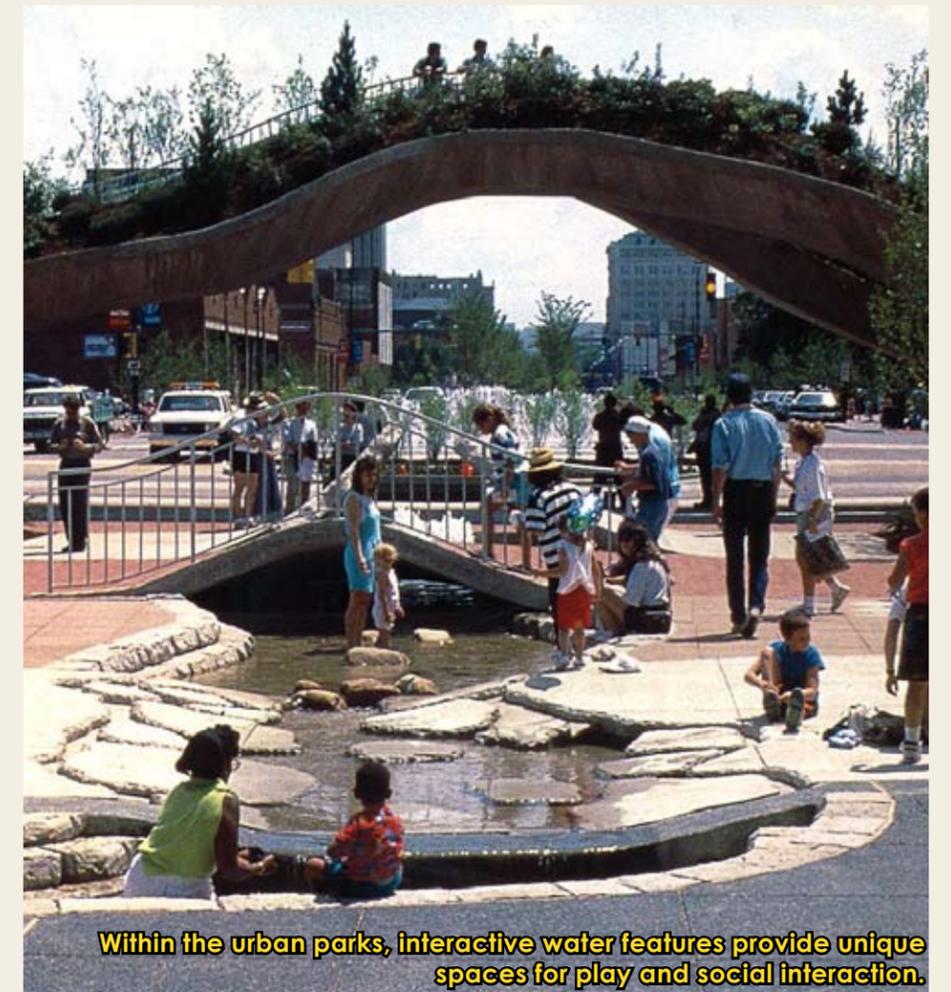
The civic plaza may provide places for cooling similar to an urban oasis.



The civic plaza should accommodate a setting for special events and outdoor concerts.



Within the urban setting, a civic park or plaza provides a place to enjoy outside for play, socializing, sunbathing, and people watching.



Within the urban parks, interactive water features provide unique spaces for play and social interaction.

THIS PAGE LEFT INTENTIONALLY BLANK.

III. CONGRESS DISTRICT DESIGN MANUAL  
Section 3 - Placemaking Strategies



Section Four

# Creating Spaces

---

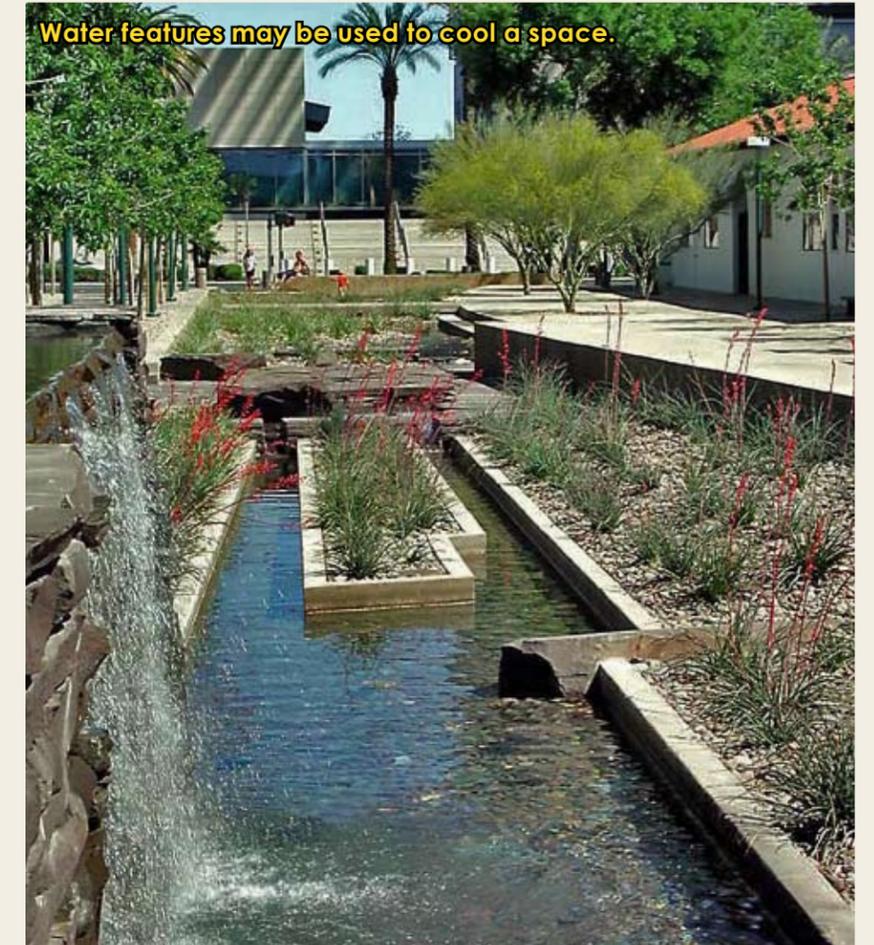
## CREATING SPACES

Pedestrian oriented spaces will encourage a vibrant downtown streetscene. Therefore, pedestrian activities should be considered in the design and planning of ground floor spaces. In order to ensure a great pedestrian environment, the following design considerations should be implemented:

- Site buildings and establish setbacks that encourage pedestrian activities.
- Activate the street level and dead spaces through the use of landscaping and lighting to create a safe pedestrian environment.
- Incorporate courtyards and passages in new and existing architecture, and also make use of hidden nooks.
- Incorporate specialty land use program elements (such as cafes) to help activate open spaces.



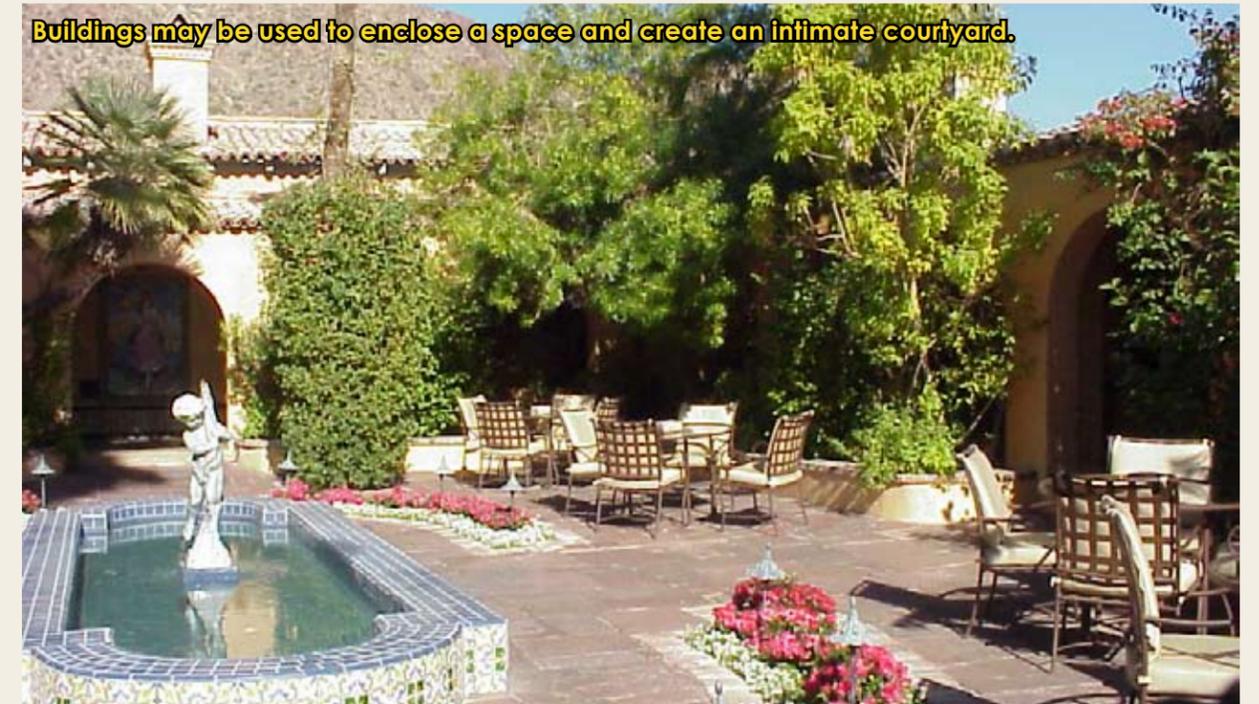
Courtyards should contain small water features for audio and visual quality.



Water features may be used to cool a space.



Specialty lighting enhance a nighttime atmosphere.



Buildings may be used to enclose a space and create an intimate courtyard.



A play of forms and contrasting of colors all create massing.

Active uses such as coffee and retail shops at street level are comfortably sealed to produce a detailed urban environment.



Architectural forms and colors can create an interesting streetscape character.



Varying proportions are encouraged in the building forms to create interest and enhance the architectural value of the streetscape.

## BUILDING SITING

### Scale, Proportion, & Massing

A building's scale, proportion, and massing should create a comfortable and well-detailed urban environment by establishing a broad variety of buildings, heights, architectural form, and detail.

Scale, proportion, and massing should also establish architectural patterns or features that relate to adjacent developments. These elements of a building's design should also provide comfort and interest for the pedestrian through the use of human-scaled architectural character.

Always avoid large areas of undifferentiated or blank building facades.

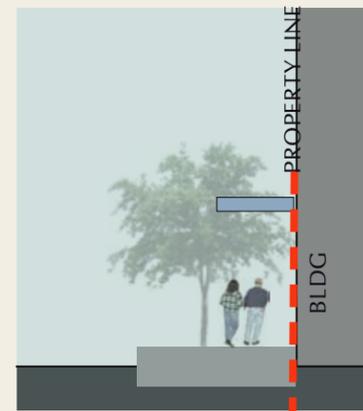
- Varying proportions are encouraged.
- A mixture of building scales may be appropriate with some elements scaled for pedestrians and others for automobiles.
- The building design should reinforce active streets producing visual interest for pedestrians.

Avoid dull, out-of-scale, and inarticulate buildings that deaden the streetscape.

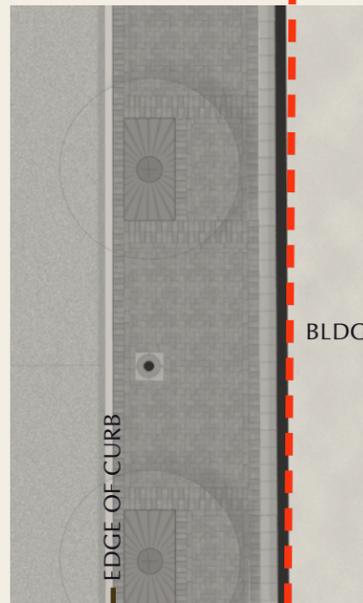
**SETBACKS AND ESPLANADE CONDITION**

Building facades should be located on or near the property line (A). Building setbacks off of the property line should be utilized primarily in the esplanade condition (B) to accommodate active public uses, such as outdoor seating.

The esplanade condition is an expansion of the sidewalk to allow for more pedestrian space. The extra sidewalk can accommodate larger gathering spaces as well as more active uses such as outdoor dining. The esplanade condition is encouraged along a section of Congress Street.

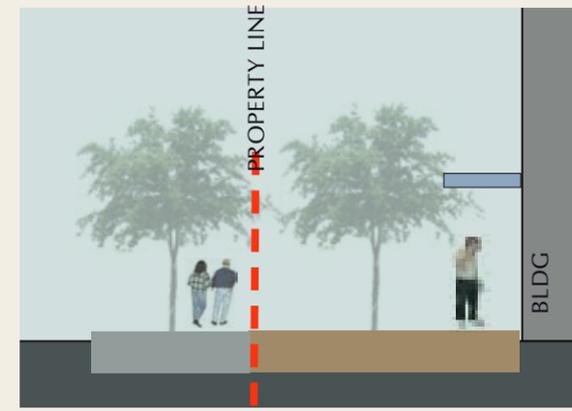


SECTION

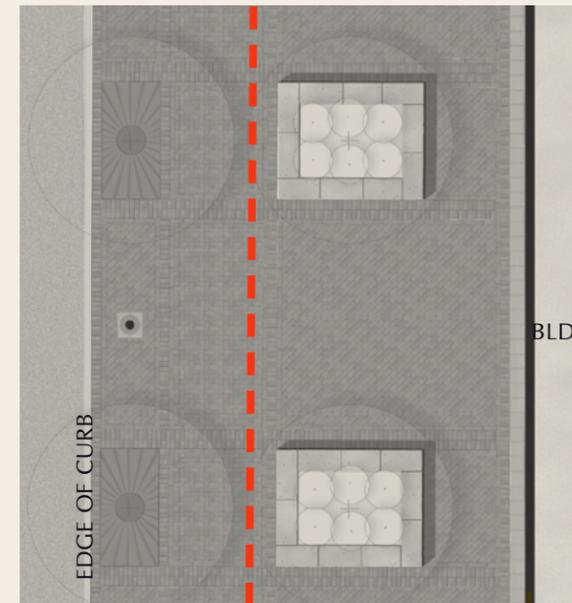


SIDWALK  
PLAN VIEW

**A. TYPICAL CONDITION**



SECTION



SIDWALK SETBACK / LANDSCAPE AREA  
PLAN VIEW

**B. ESPLANADE CONDITION**

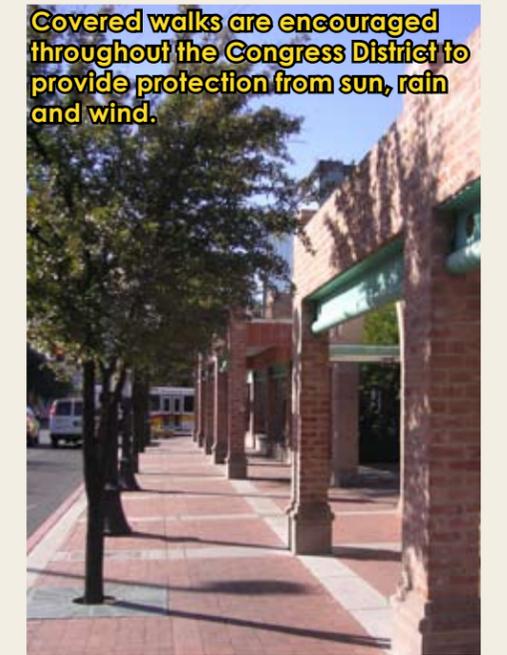


**SETBACK CONDITION ON BROADWAY BLVD.**



**ESPLANADE CONDITION ON CONGRESS ST. SOUTH SIDE**

Covered walks are encouraged throughout the Congress District to provide protection from sun, rain and wind.



A typical setback consists of a storefront with canopy and landscape area within a paved sidewalk.

Activities such as outdoor cafes and restaurants are encouraged in areas with wider setbacks or courtyards.



## SECONDARY CORRIDORS

Secondary corridors provide continuity of street and pedestrian oriented active uses. Blank walls and dead spaces without pedestrian interest should be eliminated.

### 5th and 6th Ave.

The 5th and 6th Ave. secondary corridors should be an extension of the main corridors of Congress St. and Broadway Blvd., in the sense that they are unique places where pedestrians will want to come to enjoy.

Shaded areas, small pocket parks, flower pots, tables, and benches are encouraged, as well as lights and flags lining the corridors.

### COMMERCIAL AREAS

- Buildings should have all ground floor frontages occupied by active uses such as retail shops, commercial spaces, etc.
- Buildings should provide openings at ground level to allow views of display windows by pedestrians.
- Provide frequent building entrances along public streets.
- Side and rear building entrances should always be accompanied by a primary front, street-facing entrance.

### RESIDENTIAL AREAS

- Design active building frontages to create indoor and outdoor spaces from the sidewalk and street through landscape, patios, and porches.

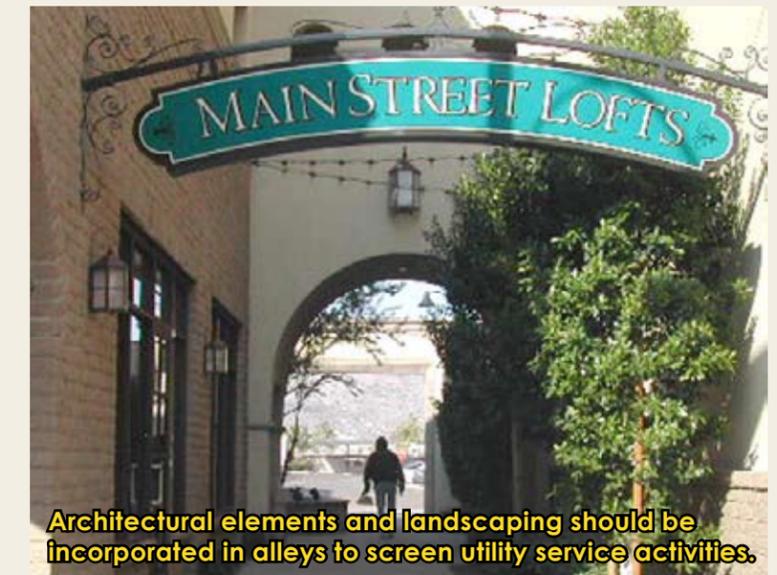
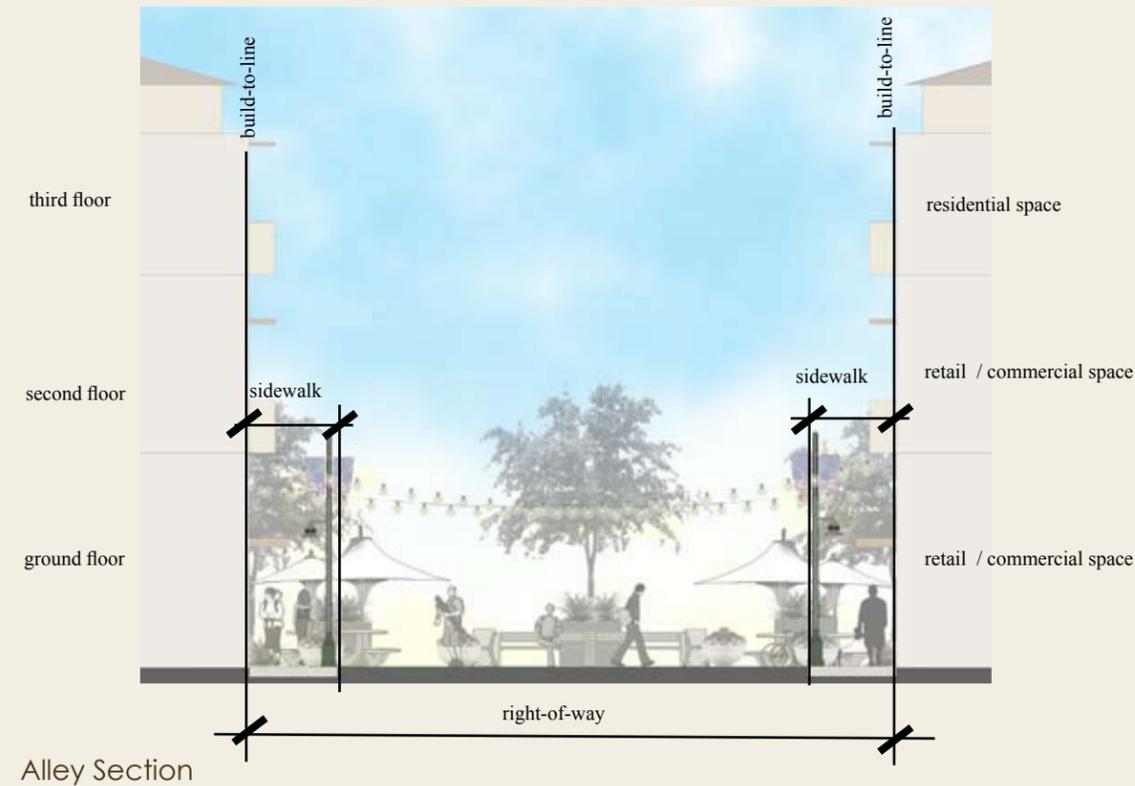
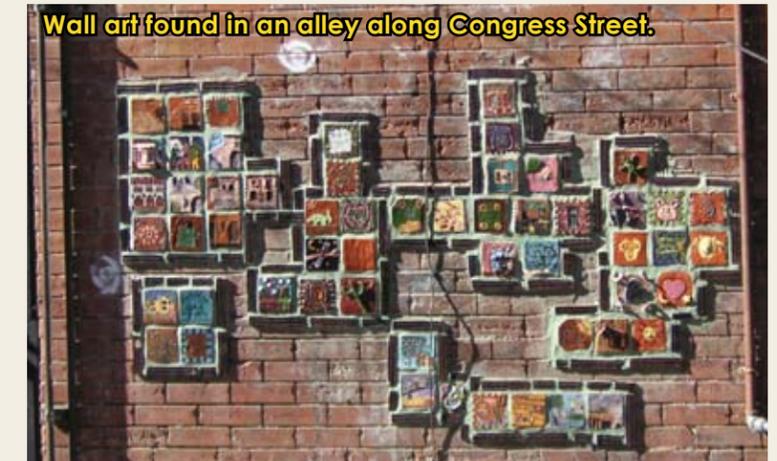
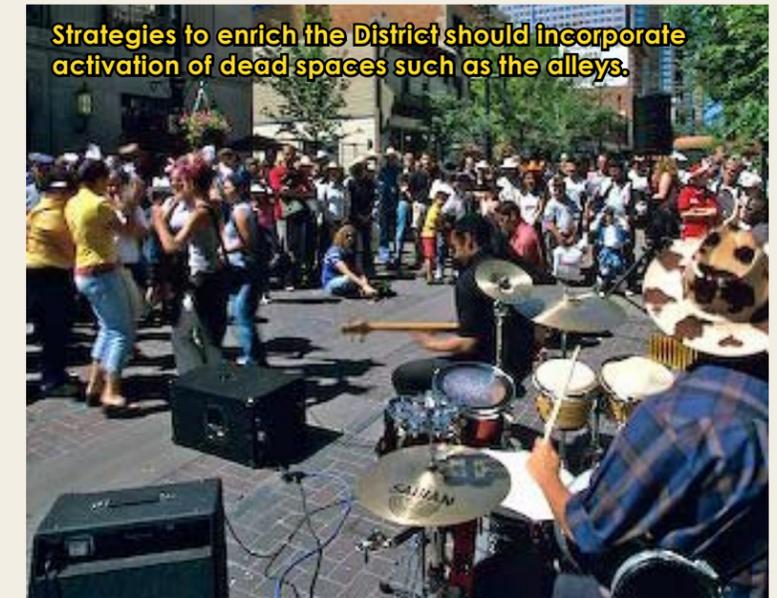
### LEGEND

-  Alleys
-  5th and 6th Ave.



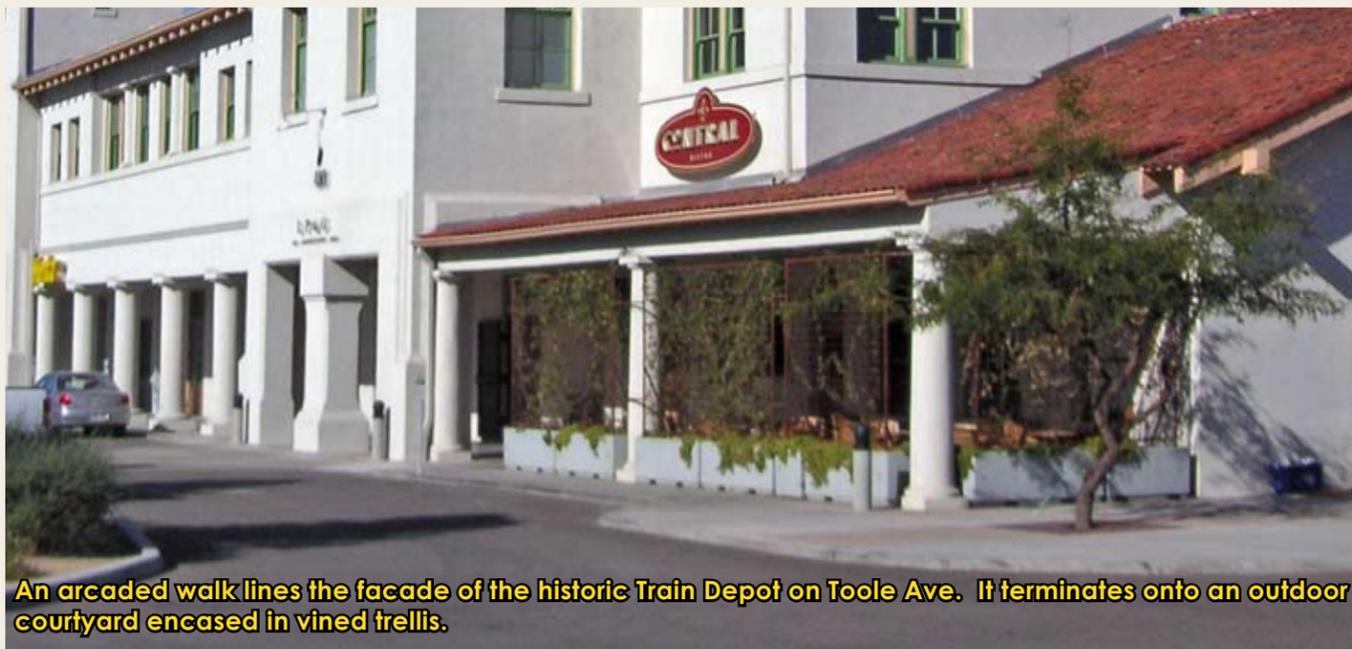
**ALLEYS**

- Alleys should have interesting treatment, such as landscaping and wall art. Alleys are opportunities for a great place to walk and other active uses, such as spillover activities from the ground retail / commercial activities.
- Special / festive lighting is encouraged in alleyways to complement street lighting and to illuminate a space for events.
- At corner conditions, building design and orientation can be organized to have active "frontage" on the alleyway.





The colonnade on lower building facade of Wells Fargo Bank adds interest to the pedestrian environment.



An arcaded walk lines the facade of the historic Train Depot on Toole Ave. It terminates onto an outdoor courtyard encased in vined trellis.



This covered walkway located on 4th Avenue provides shade and protection from rain and wind, thus creating a comfortable pedestrian environment.

## COURTYARDS & PASSAGES

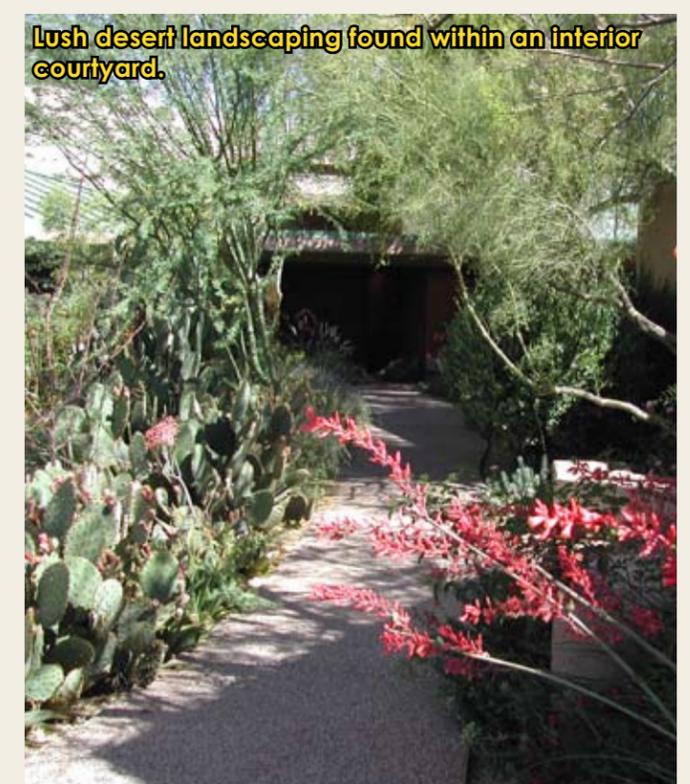
Courtyards and passages are spaces that enhance the quality of the pedestrian environment. Covered walkways, shaded patios, and courtyards contribute to a rich pedestrian environment. These elements add architectural value as well as create areas for passive and active recreation. Some design strategies for incorporating courtyards and passages in new and existing architecture are:

- The edges of a courtyard space should contain retail shops, restaurants, offices, or other activities.
- Covered walkways should be an integral part of each building's architectural character. They should create useful outdoor spaces and provide protection from the sun. The walkway should be covered by a one-story element at least sixteen feet high, and it should be defined by columns, arches, or other features.
- Courtyards are encouraged to be partially visible from the street or linked to the street by a clear circulation element, such as an open passage or covered arcade.
- New planned block developments should provide a special opportunity to establish a network of internal pedestrian connections between adjacent properties.
- Outdoor passages and courtyards that provide links between neighboring sites and buildings should be encouraged throughout.
- The following courtyard elements are encouraged:
  - Sculptures or fountains
  - Movable seating and tables
  - Choice of shaded and sunny areas
  - Several doors opening onto the courtyard
  - Ability to secure at night
  - Variety of texture and color
  - Covered and uncovered outdoor passages
  - Lush planting palette

**FOUND PUBLIC SPACES**

Found public spaces refer to small nooks within the Congress District that can be utilized for pedestrian use. These under-used spaces are opportunities for events and other active uses that landowners and the City can facilitate. These otherwise leftover spaces may be enlivened with lighting, building re-orientation, signage, and street level architectural elements. These hidden spaces may:

- Provide intimate spaces for socializing and respite
- Allocate areas for public art displays
- Enhance aesthetic value of the Congress District through landscaping opportunities



THIS PAGE LEFT INTENTIONALLY BLANK.

III. CONGRESS DISTRICT DESIGN MANUAL  
Section 4 - Creating Spaces



Section Five

# Architecture

---

ARCHITECTURE

This section refers to the architectural treatment on the new and existing buildings within the Congress District. The architecture for the Congress District will help depict the unique identity through design considerations of the following:

- Architectural Style including:
  - Facade
  - Storefront
- Architectural Features including:
  - Roofs
  - Shade & Shadows
  - Arcades
  - Door & Windows
- Materials including:
  - Color
  - Lighting

Objectives:

- To determine a distinct character that identifies Congress District.
- To preserve culture / heritage by celebrating the historic landmarks of the Congress District.
- To create interesting architectural details at street level to stimulate pedestrian oriented activities that will lead to a vibrant urban neighborhood.



**Julian Drew building shows detailing that maintains the historic character.**



**The Arizona on 6th Ave. has some elements that can be borrowed for new architecture.**



**The Hotel Congress and these commercial buildings are the vernacular style in the Congress District. Preserving and enhancing this style is encouraged.**



**Historic Train Depot on Toole Ave. is an example of a Spanish Mission Style. New and existing buildings can borrow elements from this vernacular style.**



**The Sears Executive Center presents an art deco style of architecture.**



Facade of a residential building. At neighborhood scale and with some vernacular architectural elements.



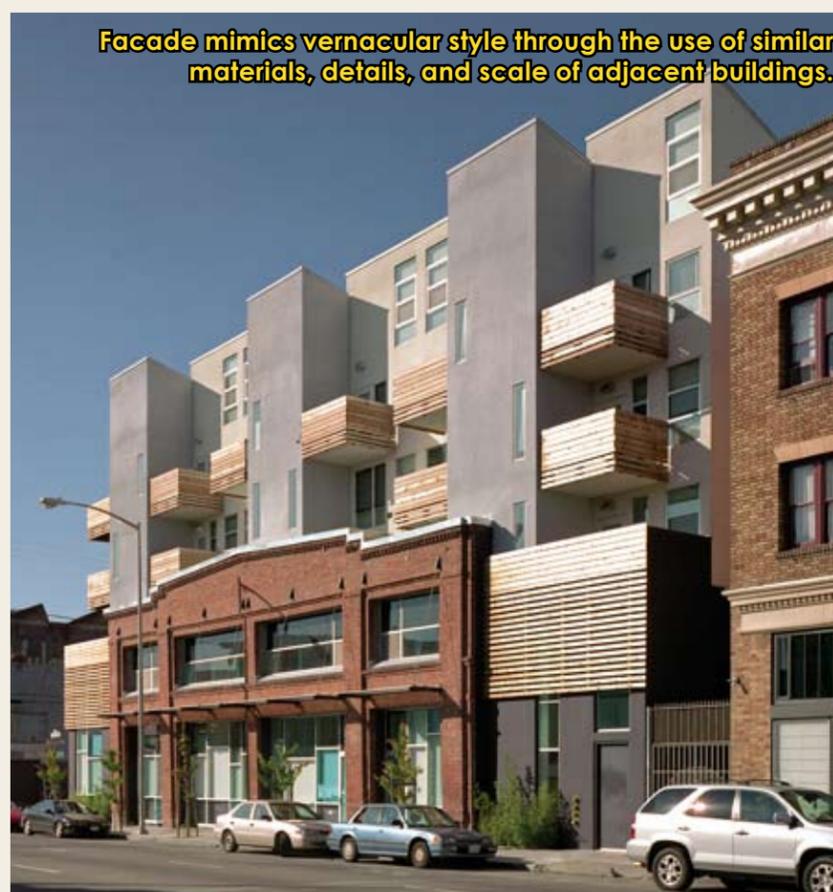
Typical Southern AZ - Sonoran style residential facade.



Vertical forms, windows, balconies, roof canopy, and colors give this residential building architectural interest.



Varied features give this building facade architectural interest.



Facade mimics vernacular style through the use of similar materials, details, and scale of adjacent buildings.



Building facade of this residential mixed-use loft reflect the different use of the ground floors and the above units.

## STYLE

The built form of the Congress District has developed into a myriad of styles, forms, details, and materials. The study area has experienced significant changes over the decades. Presently the major urban organizing elements are Congress St. and Broadway Blvd. These two corridors will play a large role in determining the use and character of new buildings. The existing architecture presents opportunities for enabling adaptive re-use.

## FACADES

### STRATEGY:

To establish an architectural style by distinctly employing elements onto the building facade that complement the existing architectural styles of Downtown Tucson. This will help define a distinct vernacular style that borrows elements from the place and the past.

- The incorporation of architecture detail that depicts a certain style must consider appropriateness of use, scale, proportion, color, and texture.
- To avoid a monotonous appearance, facades shall have varying designs by breaking the horizontal pattern of the building.
- Architectural elements such as balconies, outdoor stairs, ornaments, and surface detail are encouraged to enhance architectural style of buildings.
- Architectural details should be carefully integrated in the concept design of the building.
- Distinction between ground floor and upper floor levels should be clearly articulated.
- Architecture details such as moldings, cornices, columns, etc. should convey a distinct style that creates a desirable pedestrian experience.

**STOREFRONTS**

Storefronts refer to store / display windows that face the street. Storefronts help activate the street through attractive display of goods or services. Storefronts usually incorporate canopies or metal awnings as part of the store design and signage feature.

**STRATEGIES:**

- Mixed-use developments should utilize a variety of glass-to-wall ratios that reflect the different uses within the building. Typically residential uses are characterized by less window-to-wall and commercial uses by greater window-to-wall ratios.
- Commercial building facades that front public streets or open space should have a significant percentage of clear glazing.
- Storefronts should provide canopies or awnings for shade and color and material variation.
- Canopies can also be provided as a design element for a more interesting storefront, as well as a material for signage.
- Storefronts should be integrated with the sidewalk design and treatment.



Canopies are used for signage at street level.

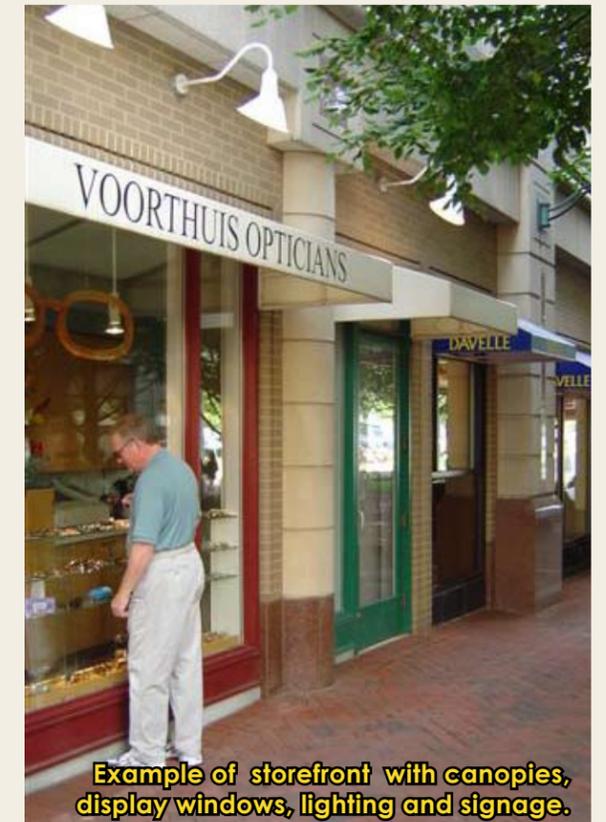


Canopies for storefronts and umbrellas provide shade for outdoor cafes.

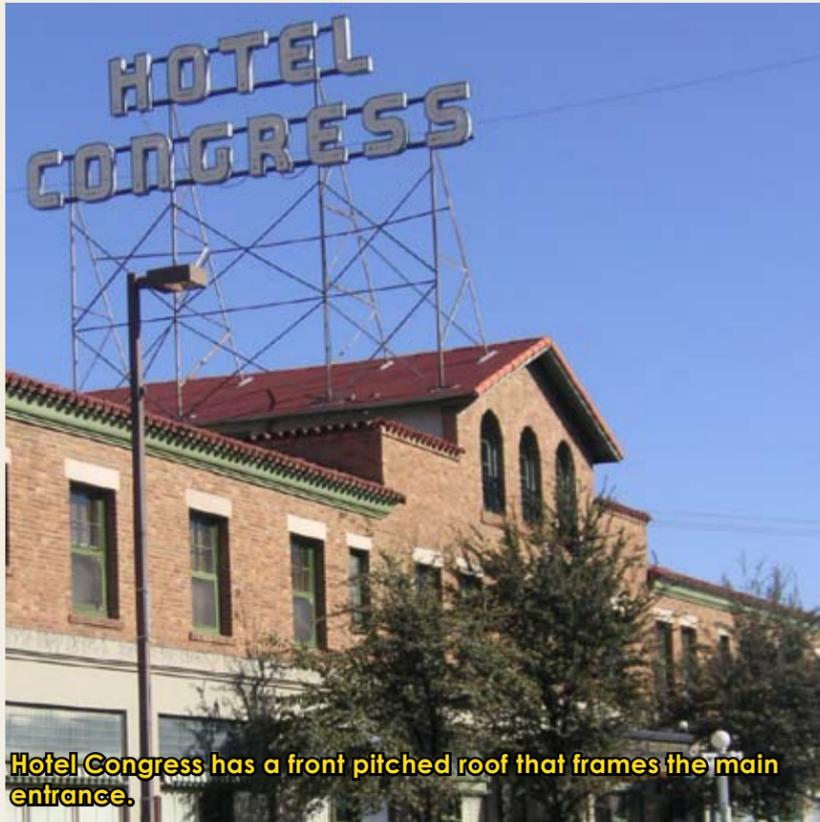
Example of a recessed entry of a storefront.



This generous distribution of glass street frontage relates exterior environments to the interior.



Example of storefront with canopies, display windows, lighting and signage.



Hotel Congress has a front pitched roof that frames the main entrance.

The use of a curved roofline can be used as accent element.



Flat roofs are typically used in arid climates and may support additional features such as green roofs, terraces, or parking spaces.

Large overhangs create shade.



## ROOFS

Roofs can be constructed in a variety of forms as influenced by climate, technical, and aesthetic considerations. In a desert environment like Tucson, roofs vary in proportions and shapes to provide overhangs for shade, protection from rainfall, and materials that will reduce heat absorption.

In an urban setting, roofs can be defined as significant elements that define hierarchies and functionality of the buildings. Roofs should reinforce the district's character, as well as its historical significance, by choosing proper materials, colors, and shapes.

## SHADE & SHADOW

Shade & shadow elements are interesting features that add architectural texture as well as protection from the sun and rain. Sun shading devices are architectural elements that employ interesting materials and architectural detailing. Considerations should be given to the following:

- Serve as design element that will create architectural interest.
- Provide protection from the elements that will create continuous shaded walks.

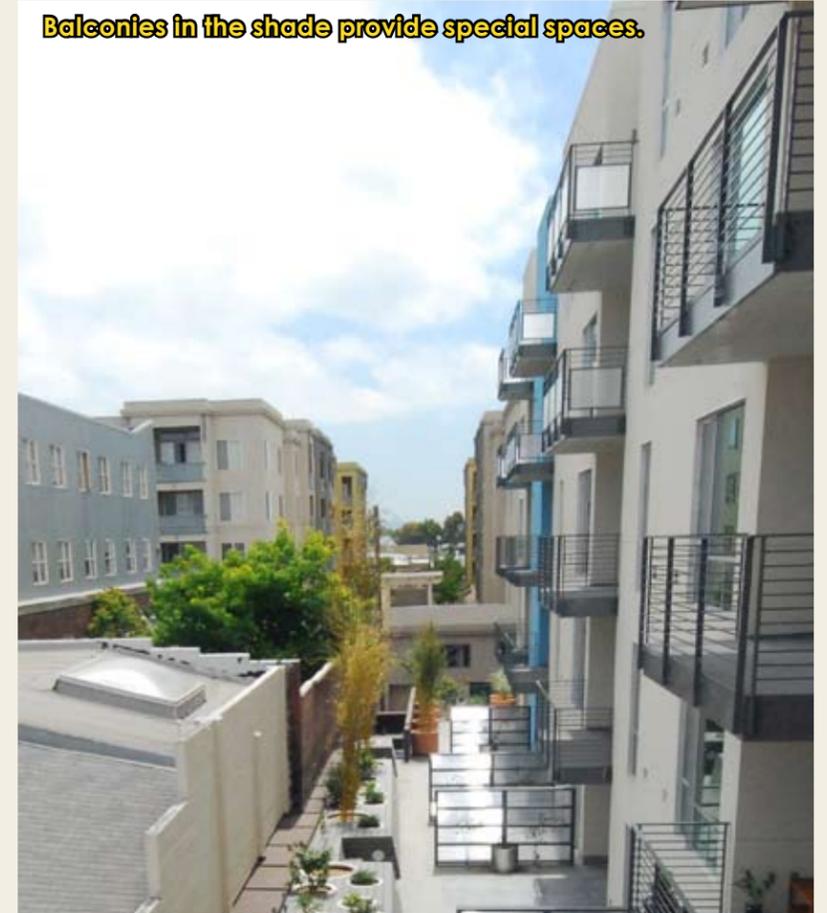
### STRATEGIES:

- Sun shading devices that are attached to the buildings such as canopies, awnings, balconies, and overhangs should provide at least five feet of coverage over sidewalks for protection.
- Solar orientation and angles should be taken into consideration.
- Overhangs, canopies, balconies, and awnings will add to the overall architectural character.
- Overhangs, canopies, balconies, and awnings should be continuous along pedestrian paths.
- Awnings are encouraged for window openings above ground floor level.
- Some sidewalks, terraces, courtyards, and plazas may incorporate misting features that add to the relief during summertime heat.

**Balconies provide shade and shadows on this residential building.**



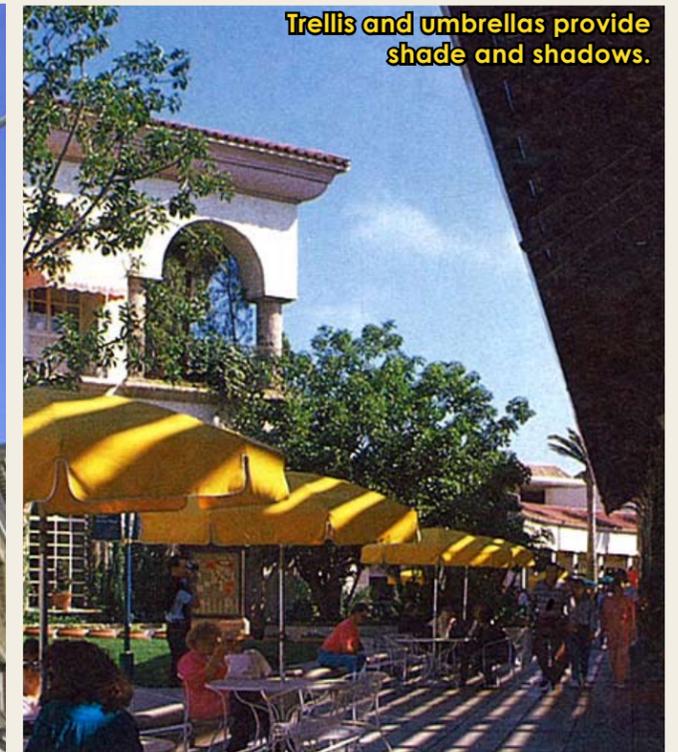
**Balconies in the shade provide special spaces.**



**A fabric canopy serves as a stylized design element for this restaurant.**



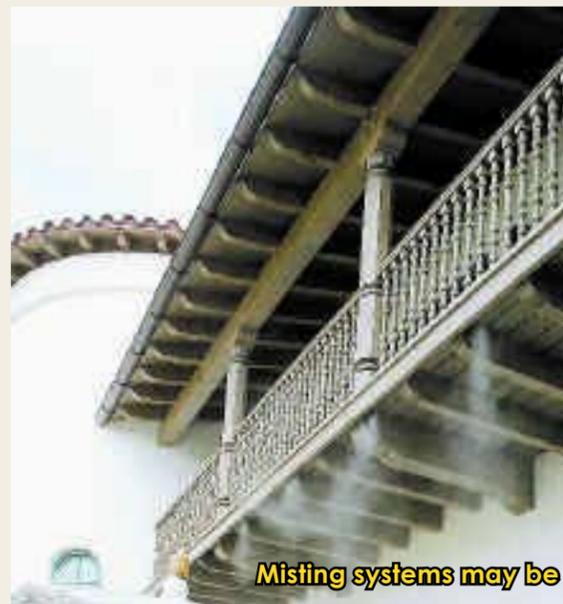
**Suspended metal canopies create an interesting architectural detail.**



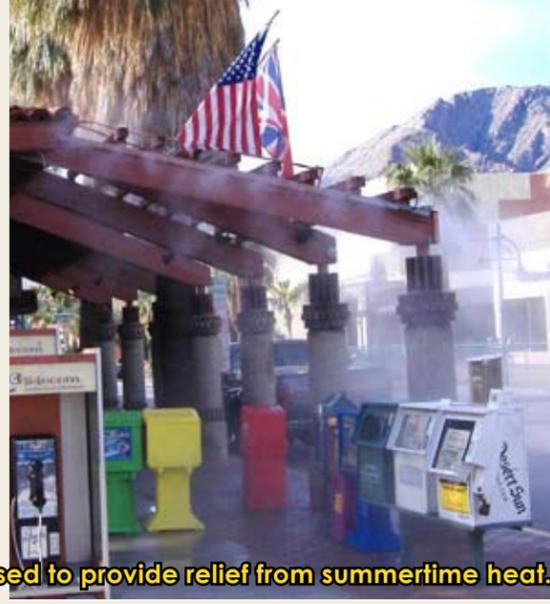
**Trellis and umbrellas provide shade and shadows.**



Metal awnings add architectural interest.



Misting systems may be used to provide relief from summertime heat.



The trellis will soon be covered with vines to provide ample shade.



Variation of trellis materials provide interesting shadows on this storefront.



A curved metal canopy is a unique feature for this storefront.

## ARCADES

An arcade is a continuous covered walkway utilized for pedestrian comfort. The arcade creates a visual continuity, a feeling of protection from busy streets, and most importantly protection from the sun in the summertime. The objective is to provide comfortable shaded walkways that are enhanced by material selection, plants, benches, breezes, lighting, and colors.

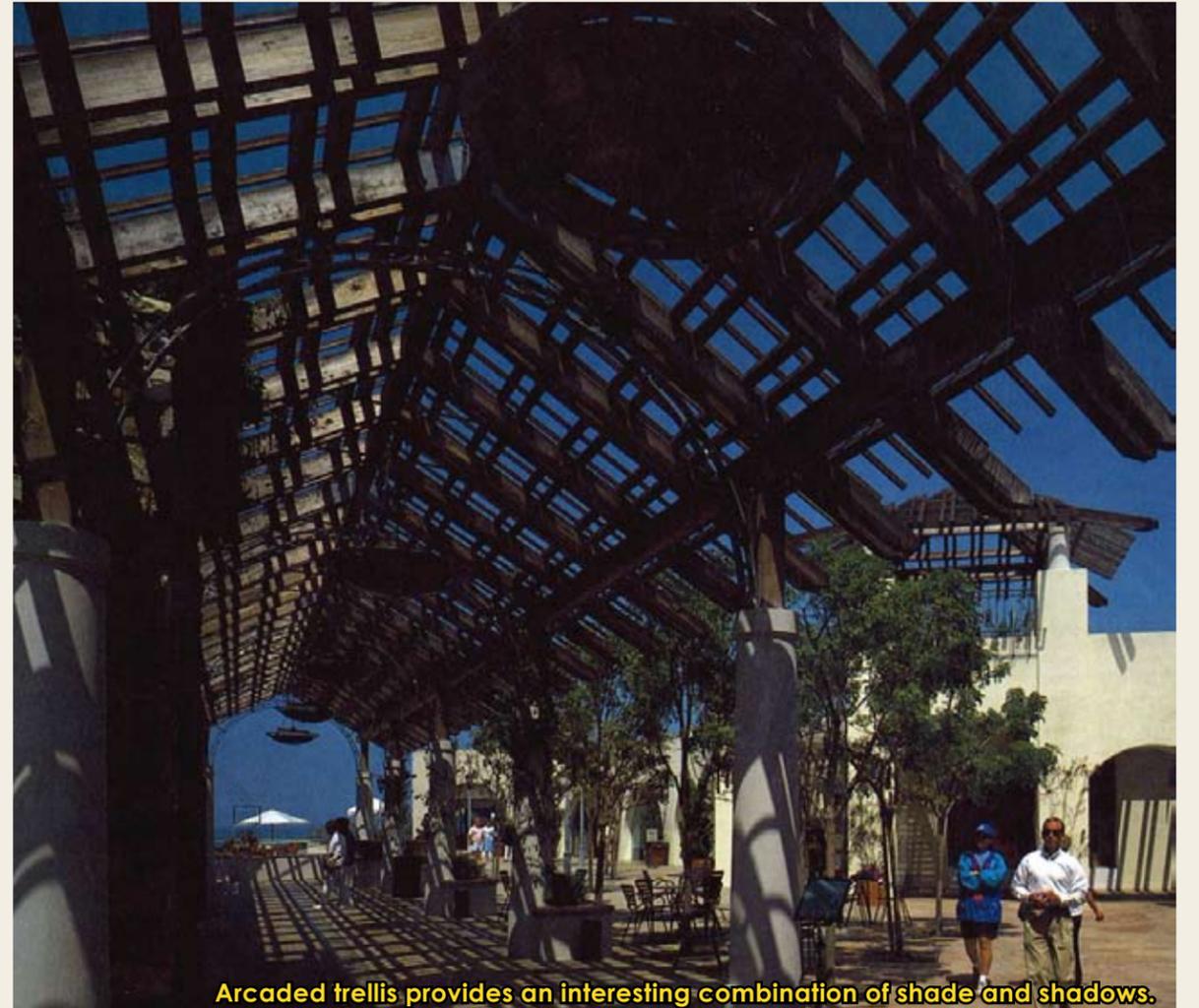
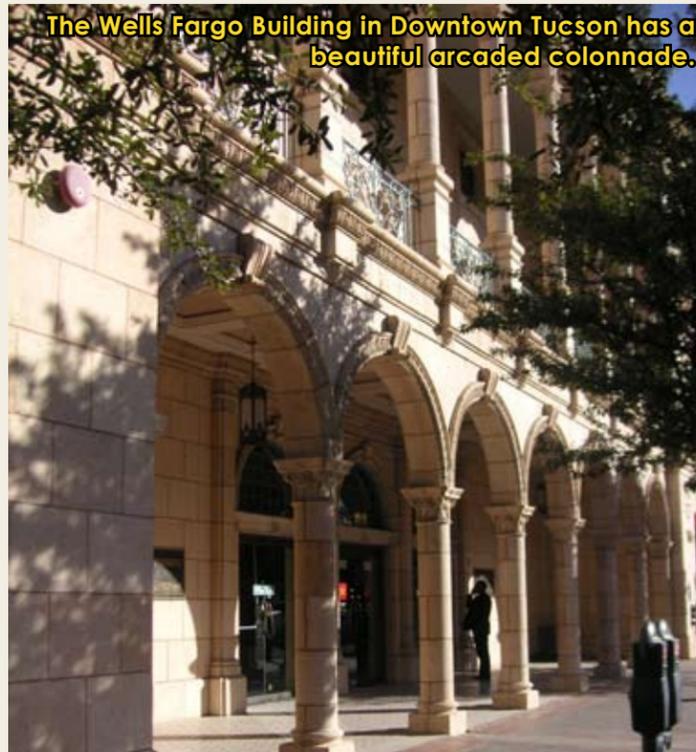
Some considerations for the design and use of arcades are:

- Arcades should be predominantly along southern and western facing exposures.
- Arcades should occur along wider sidewalks dependent on the size and width.
- Arcade materials can be wood, brick, canvas, metal, and stone.
- Arcades may terminate on prominent destinations.

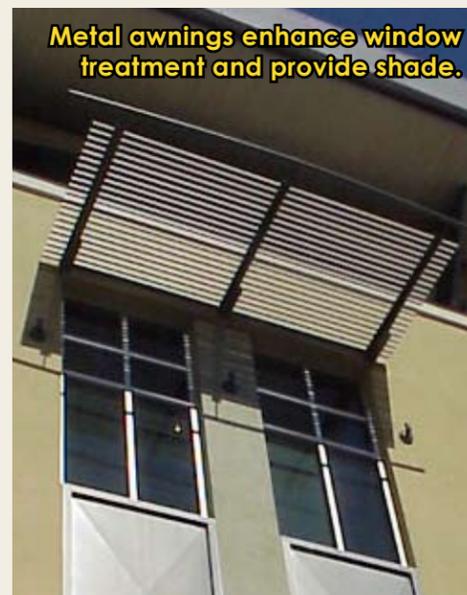
An example of a covered walkway on Congress St. at the bus terminal.



The Wells Fargo Building in Downtown Tucson has a beautiful arcaded colonnade.



Arcaded trellis provides an interesting combination of shade and shadows.



Metal awnings enhance window treatment and provide shade.



Window and storefront treatment of a vernacular style in Congress District.



Mixed use building: metal framed windows, doors, storefronts, and metal awnings set a good precedent for new architecture in the Congress District.



This window treatment provides a visual play of material and color applications.



Traditional vernacular style of door / window treatment.



Glass on metal frames and trellis; this entry doorway and windows have an integrated courtyard. This ground landscape forms part of the street frontage.



Vernacular style of arch doorway.

## WINDOWS & DOORS

The window and door treatment should provide a high degree of transparency at the lower levels of the building facades. The design should ensure the visibility of pedestrian activities and provide an active, human-scale architectural pattern along the street. The primary building entries should be oriented to the streets to enhance the scale, activity and function of the public streets.

### STRATEGIES:

- Each building should have one or more clearly identifiable "front doors" that address each major street fronting the facade.
- Residential units, such as townhouses and other similar street level dwelling units within multi-unit structures, should have an individual street-oriented entry for each unit.
- Window size, proportion, and pattern should relate to unit types and room layouts, and be used to reinforce organized patterns of scale and variety within the building facades.
- Deep window recesses are encouraged.
- Window ribbon treatments are discouraged.

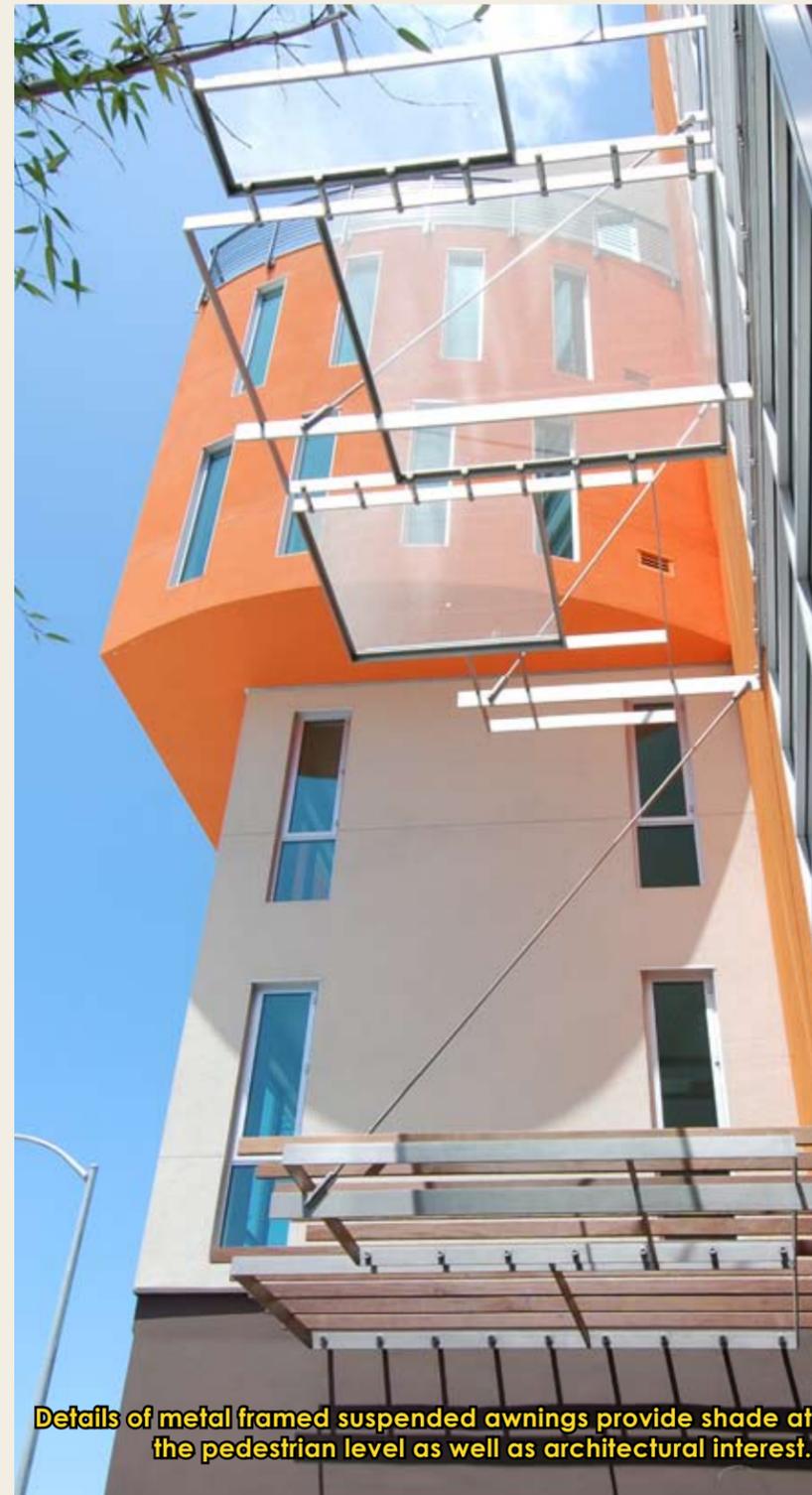
MATERIALS

In order to enhance the historical character of Congress District, the predominant use of material should reinforce the masonry traditions of Tucson. All materials should be appropriate to the urban environment and should encourage human scaled buildings through the use of small scale modular units such as brick.

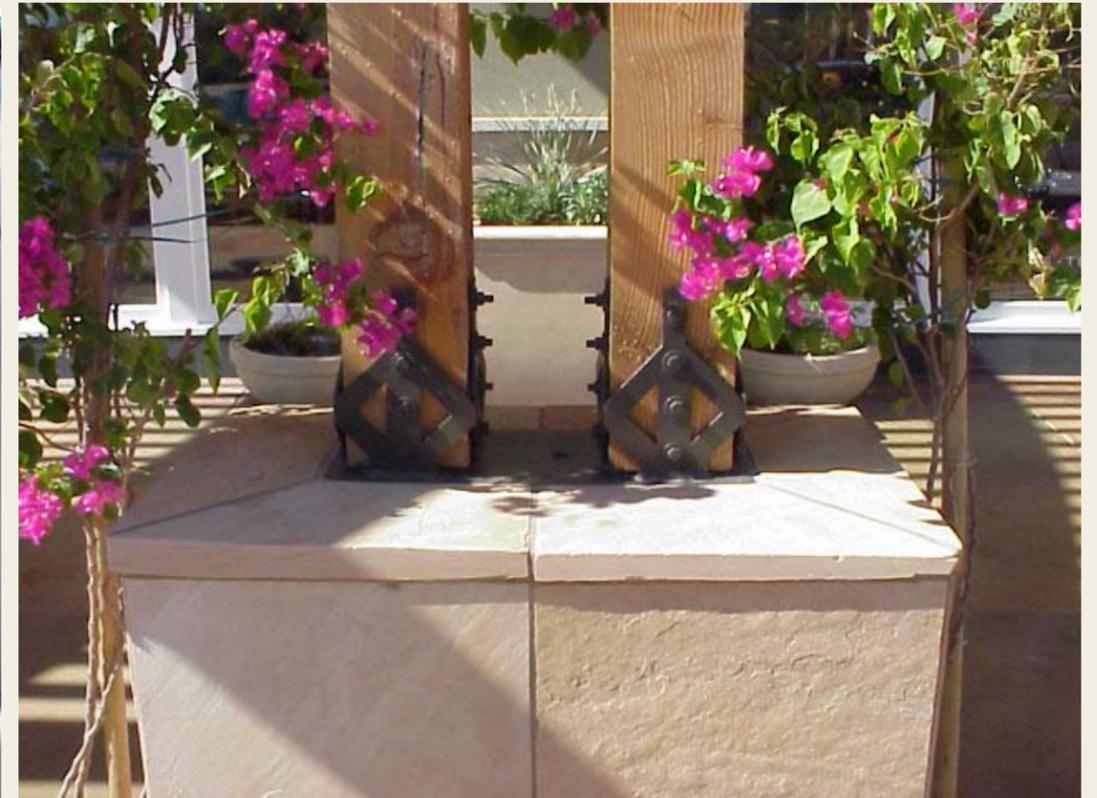
## STRATEGIES:

Maintain the historic character of Congress District by employing design elements, e.g. details, materials and forms. Predominant material, colors should be evident at a pedestrian level.

- All facades facing public streets or open space shall be constructed of high quality materials including the following:
  - Masonry, including brick, stone, terra cotta, architectural pre-cast concrete, cast stone, and prefabricated brick panels
  - Architectural metals, including metal panel systems, metal sheets with expressed seams, metal-framing systems, or cut, stamped or cast, ornamental metal panels
  - Glass and glass block
- Building materials used at the lower floors adjacent to street frontage should respond to the character of the pedestrian environment through such qualities as scale, texture, color, and detail.
- Building materials should be selected with the consideration of quality and durability appropriate with the urban context.
- Carefully detailed combinations of materials should reinforce architectural scaling requirements.



**Details of metal framed suspended awnings provide shade at the pedestrian level as well as architectural interest.**



**Detailing of columns, edges, trellises, and transitioning of colors from base to upper sections should be considered when designing new and existing buildings.**



A bright color may be used to accent certain architectural features.



Color and material variance punctuates this residential end unit.



Brightly colored metal accents are encouraged for signage and store logos.



### COLOR

The use of color should be compatible with the historic traditions while allowing an appropriate use of bold accent colors.

#### STRATEGIES:

- The predominant use of color should be consistent with the colors of the historical buildings found in the study area.
- Accent colors should be used on signage, lighting, architectural features, window frames, doors and accent walls.
- Color and materials used in large quantities that reflect glare are to be avoided .



Varying colors of brick will be compatible with the historic character of the Congress District.



Neutral desert tones are encouraged because of their low heat absorption.



Color accents should be applied to create variety along the streetscape.

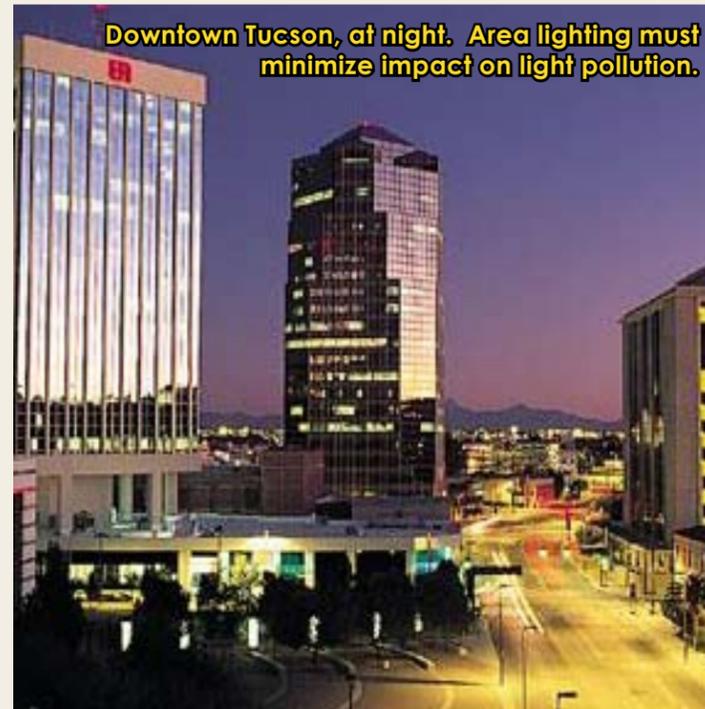
**LIGHTING**

The purpose of this section is to preserve the relationship of the residents of Tucson to their unique desert environment through protection of the dark night sky. The intended outcomes include continuing support of astronomical activity and minimizing wasted energy while not compromising safety, security and well being of the residents of Tucson.

- The lighting strategies should incorporate appropriate lighting effects on civic buildings, public art, and other significant buildings in compliance with the City's development code. Area lighting must be installed where it meets the City of Tucson's Outdoor Lighting Code. The following recommendations will help reduce or prevent glare and light trespass, conserve energy, and promote safety and security.

**STRATEGIES:**

- All area lights, including street lights and parking area lighting, should be full cut-off fixtures.
- All lighting should be recessed sufficiently so as to ensure that no light source is visible from or causes glare on public rights-of-way or adjacent property.
- Illumination levels and uniformity should be in accordance with current recommended practices of the Illuminating Engineering Society (IES). Recommended standards of the IES should not be exceeded.



**Downtown Tucson, at night. Area lighting must minimize impact on light pollution.**



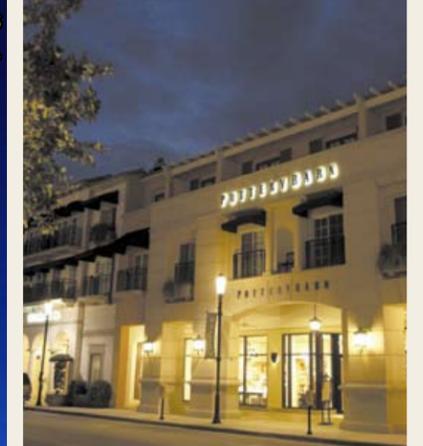
**Visually appealing uplights enhance architectural features on building.**



**Interior lights serves as lighting for streets due to transparent windows.**



**Uplighting from spotlights illuminating building features contributes to light pollution.**



THIS PAGE LEFT INTENTIONALLY BLANK.

III. CONGRESS DISTRICT DESIGN MANUAL  
Section 5 - Architecture



Section Six

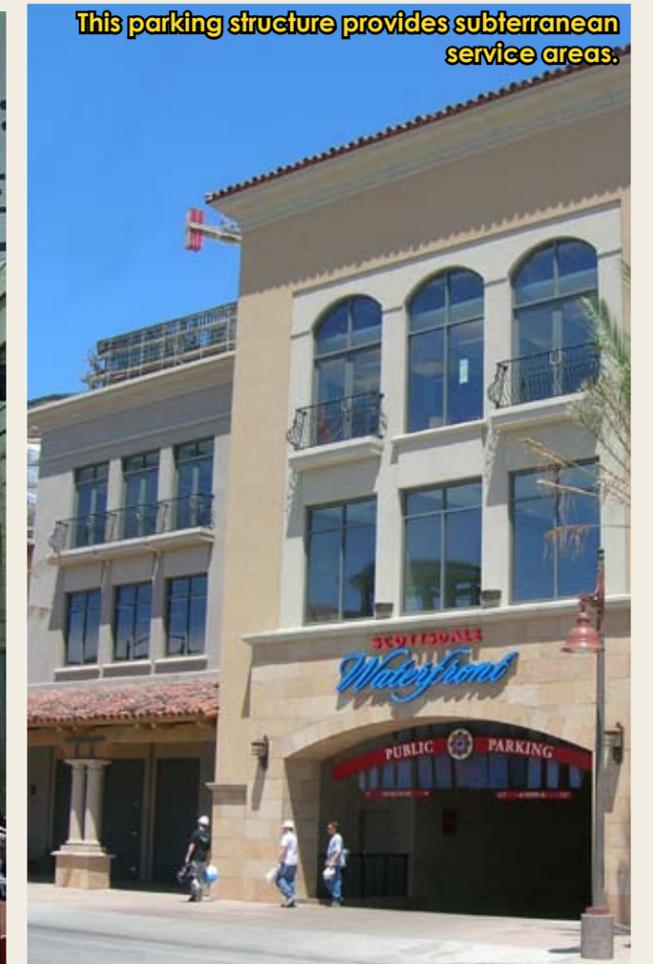
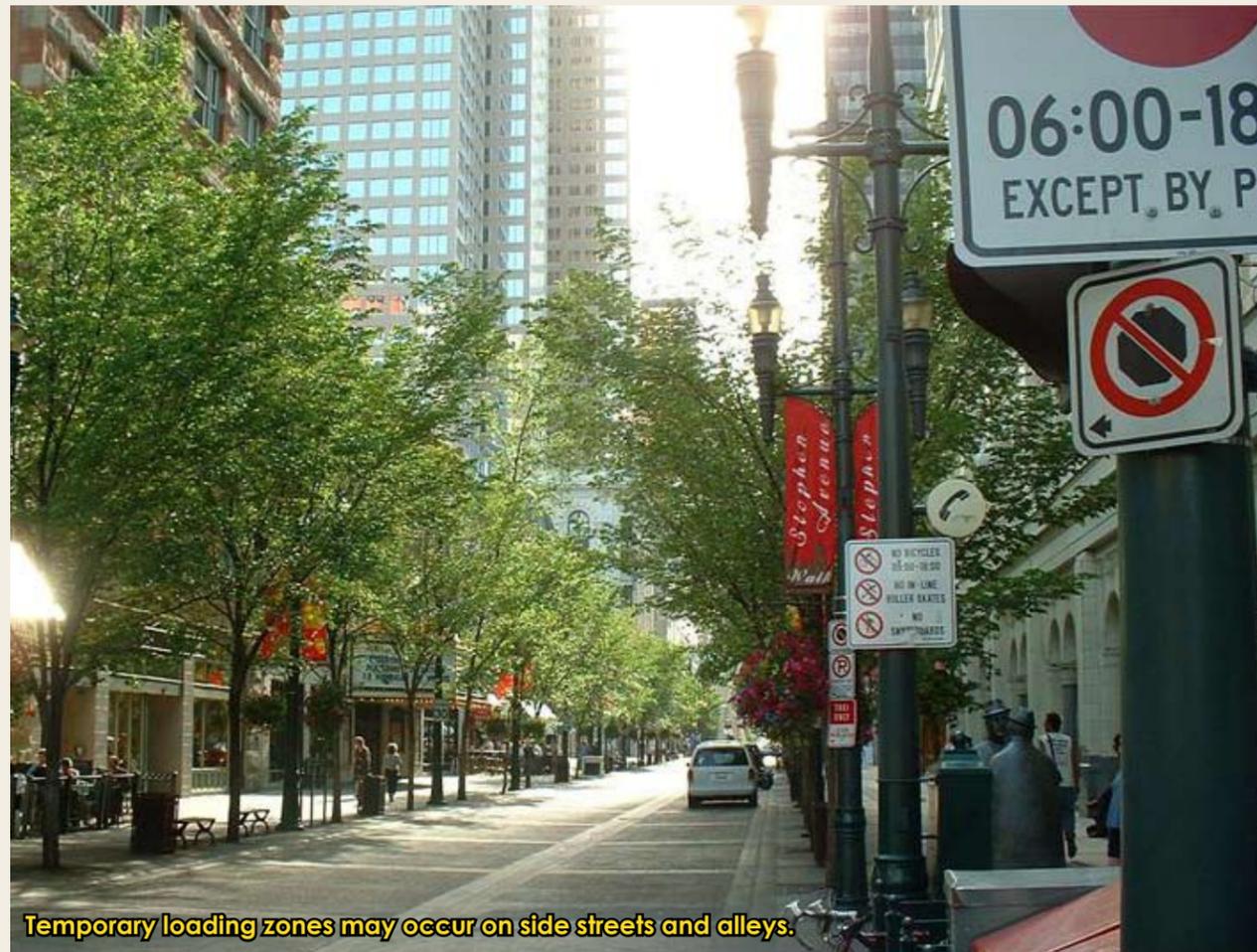
## Service Areas & Parking

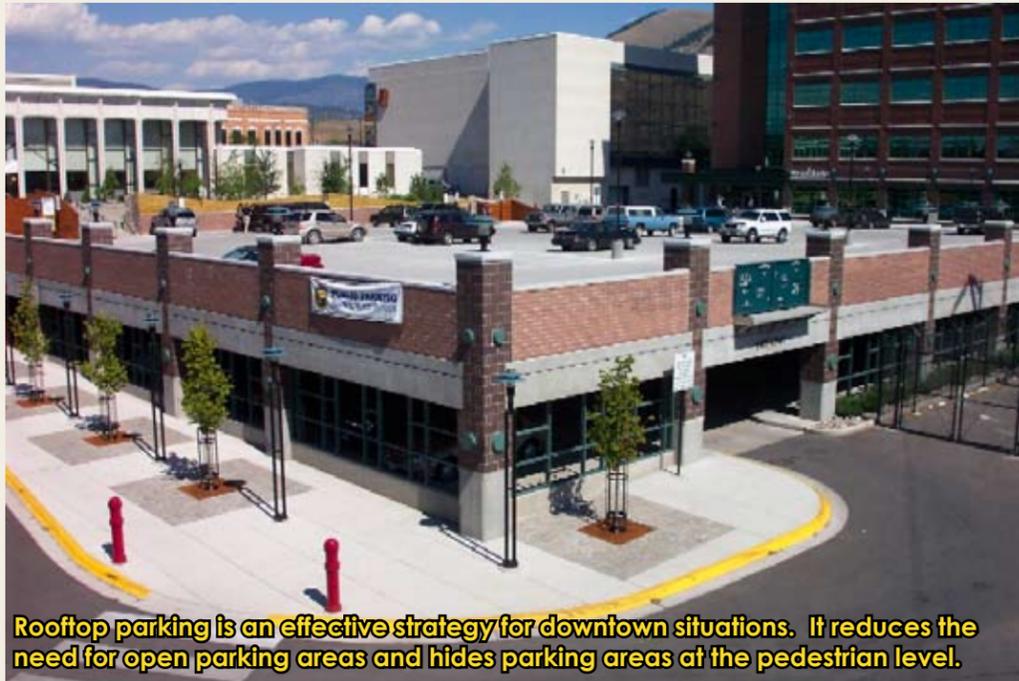
---

## SERVICE AREAS

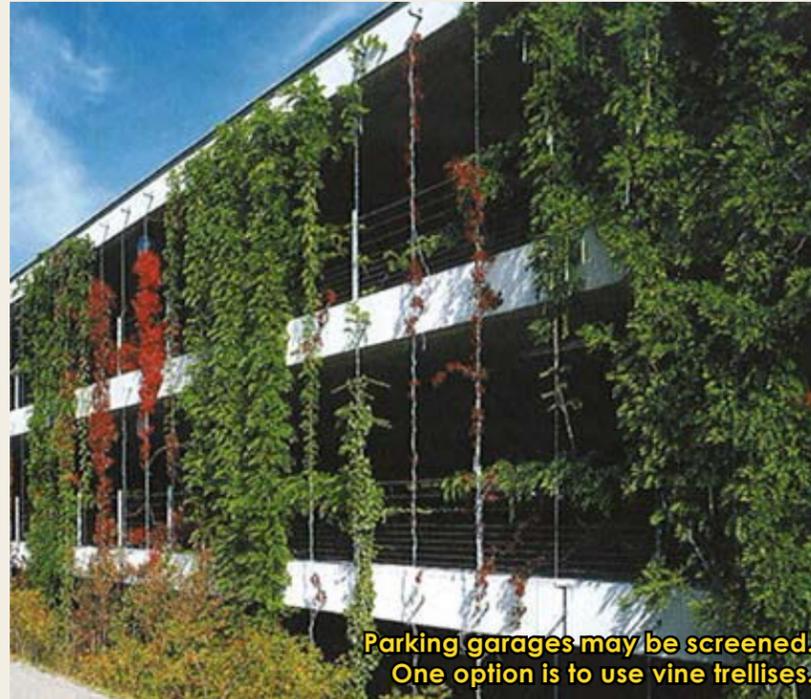
Service areas refer to driveways, loading/unloading and delivery areas, and areas used for periodic utility maintenance. These activities create visual nuisances and can be hazardous to pedestrians. To create a visually appealing and safe streetscene, it is important to minimize the visual impact of service areas and direct these areas away from pedestrian zones. Some design techniques that may be implemented are:

- Locate service driveways on rear, side or alley drives.
- Service areas may be located within parking structures.
- Service areas should be screened with landscape elements such as arcades, facade greening, and shrubbery.
- Temporary loading zones may also be located on rear, side, or alley streets and used during off-peak hours.





**Rooftop parking is an effective strategy for downtown situations. It reduces the need for open parking areas and hides parking areas at the pedestrian level.**



**Parking garages may be screened. One option is to use vine trellises.**

**Parking structures located on main retail streets should include shops at the street level to create a more interesting pedestrian environment.**



**The use of permeable parking surfaces should be explored.**



**All surface parking should have landscape treatment for minimizing its visual impact and mitigating heat gain.**

## PARKING

Parking refers to structured parking and surface parking that accommodates parking requirements of the City of Tucson. Similar to service areas, large areas of surface parking create an uninviting pedestrian zone; therefore, these areas should be visually minimized. Preferably, most parking should be within a parking structure. Design considerations for parking structures should activate the street level by incorporating ground floor retail/commercial uses and have visually appealing facades.

### Structured Parking

- Parking structures should include similar architectural detailing and design as other commercial / residential buildings within the surrounding areas.
- Parking structures should be designed to conceal parked cars at the ground level.
- Parking structures with exposed street frontage along commercial / mixed-use blocks should accommodate retail space at the ground level.
- Access into the parking structure should be primarily from side streets.

### Surface Parking

- Surface parking should not be located along major corridors and should be minimized along secondary corridors.
- Surface parking lots should be behind buildings, especially along major and minor corridors.
- Access should be limited to side streets and alleys.
- Maintain a landscape buffer zone between the sidewalk and any surface parking lot.
- Large surface parking areas should be landscaped and provide tree canopies to mitigate heat build-up and to screen parking areas.
- Opportunities to minimize impervious parking surfaces is encouraged. Permeable surfaces and bioswales are recommended.



Section Seven

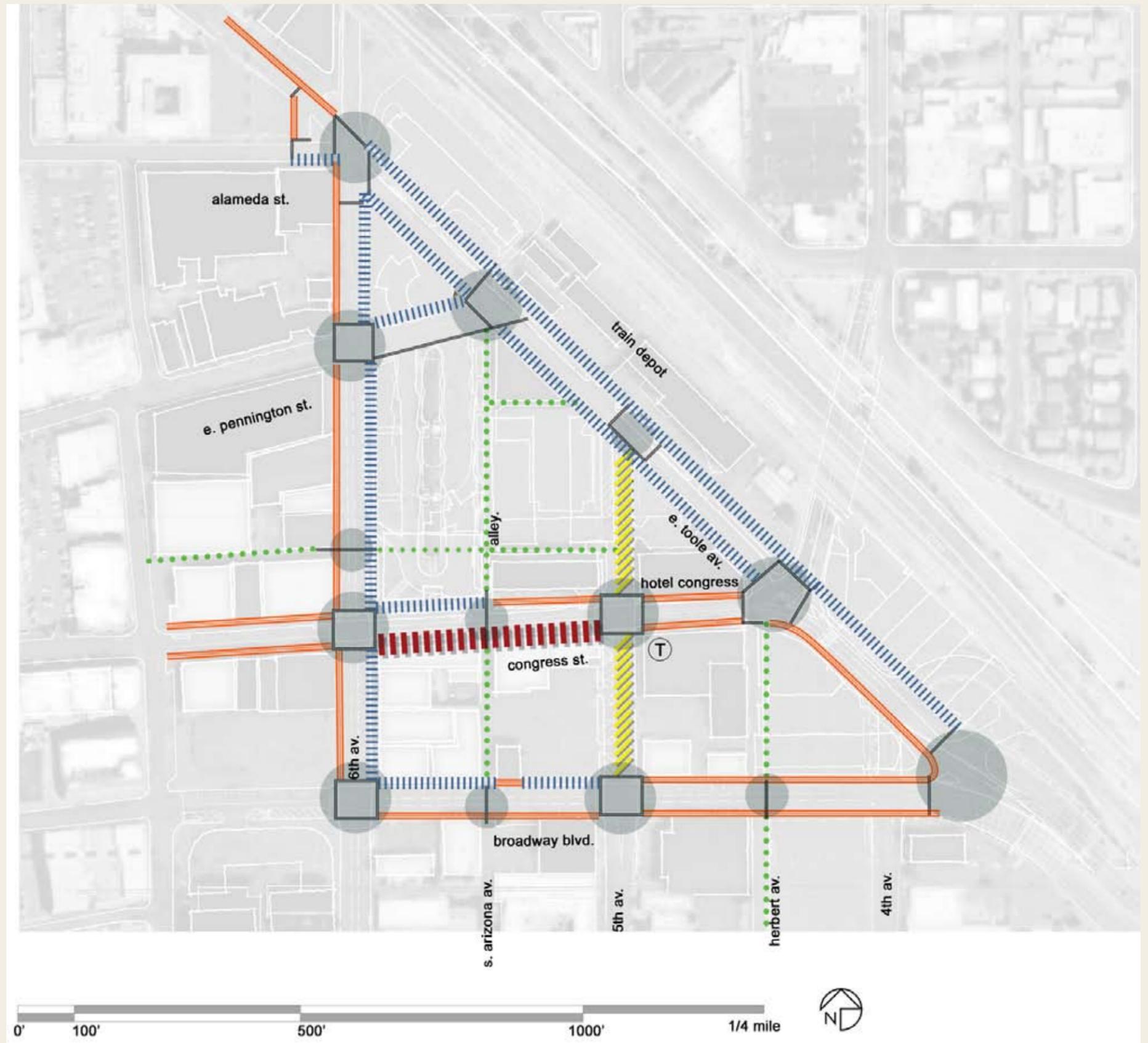
# Street Design

---

STREET DESIGN STRATEGIES

The Street Design Strategies Map is intended to show the distribution of the 5 street conditions. Each will be discussed throughout the Streetscape Section.

-  1. CURB EXTENSION CROSSING
-  2. ESPLANADE
-  3A. WIDE SIDEWALK
-  3B. NARROW SIDEWALK
-  4. PEDESTRIAN STREET
-  5. ALLEY
-  6A. MAJOR INTERSECTION
-  6B. MINOR INTERSECTION
-  TROLLEY STOP



## STREET DESIGN STRATEGY

The Street Design Strategy for the Congress Street District is to reinforce Congress Street as the key pedestrian link between Downtown and the entertainment hub formed by the Congress Hotel and the Rialto Theater. The vision for Congress Street is for it to become an exciting pedestrian environment in Tucson. The design of the walkways, lighting, paving, furnishings, and signage for Congress Street defines it as the primary pedestrian environment. The remaining streetscapes within the district are designed to complement Congress Street.

The Streetscape Design Strategy proposes five (5) street conditions for which possible design solutions are given. The design solutions for each street condition will continue to be discussed throughout the streetscape section in terms of paving, lighting, planting, and furnishings. The five conditions are:

1. Curb Extensions – redesign of the pedestrian areas and curbs at crosswalks to reduce the distance from one side of the street to another. Curb extensions will take place at intersections, mid-block crossings, and specialty areas such as the streetcar stop.
2. The Esplanade – an expansion of the pedestrian zone to include a significant setback between the face of buildings and the edge of right-of-way to allow outdoor seating and other pedestrian amenities.
3. Sidewalks – the area between the face of buildings and the curb. There will be designated areas that would require a wide sidewalk condition or a narrow sidewalk condition.
4. Pedestrian Street – a major redesign of the travel lanes and on-street parking areas to change the nature of the street from vehicular oriented to pedestrian oriented.
5. Alley – the service access rights-of-way that run along the backs of buildings that will be maintained to allow for safe pedestrian passage.
6. Intersections - the intersection of at least 2 roads that will require pedestrian crosswalks. The intersections have been designated major or minor depending upon whether the intersecting roads are major arterials or minor streets.

The map on the adjacent page illustrates the distribution of the 5 basic conditions (see Street Design Strategies Map page DM83).

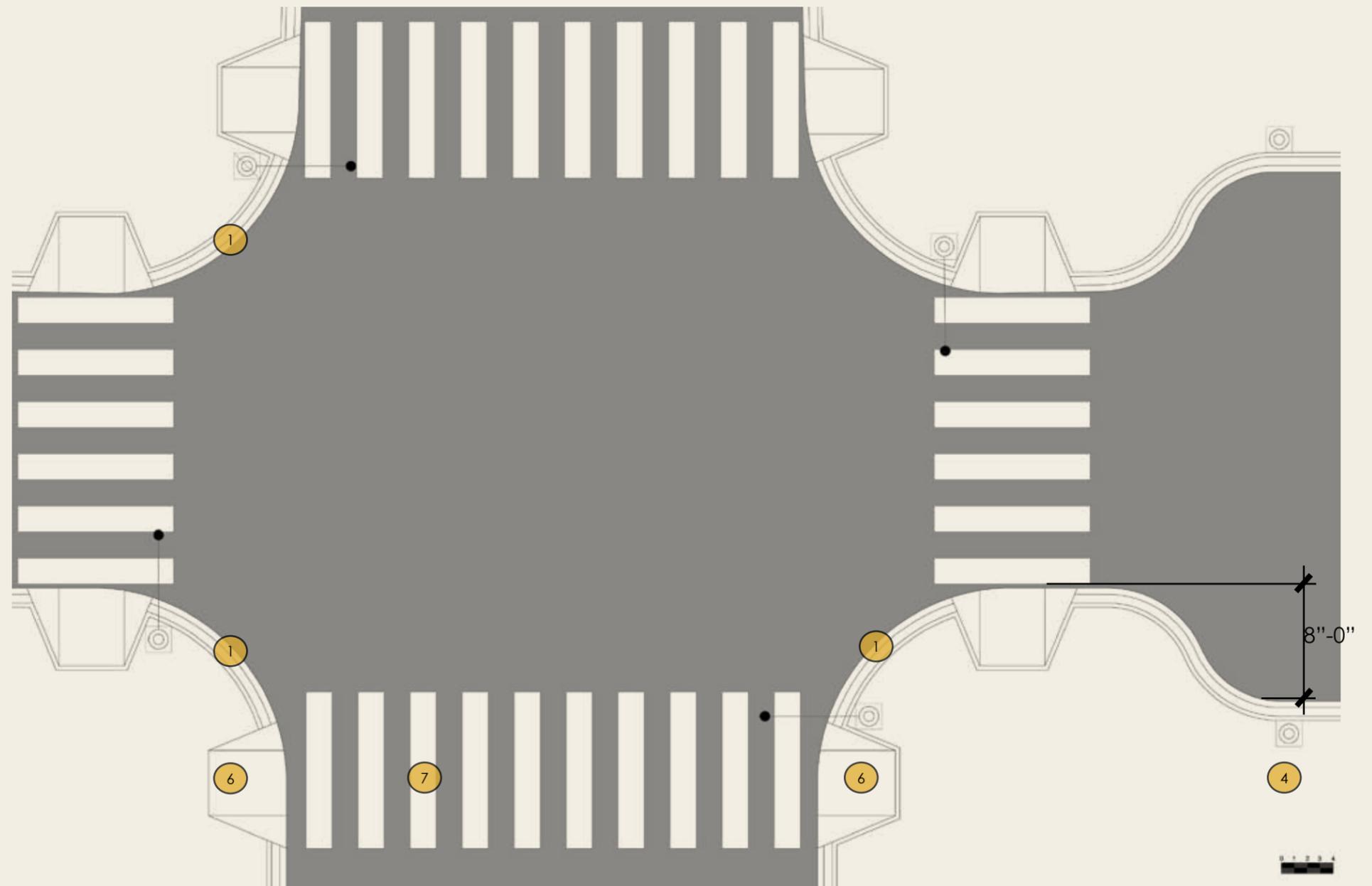
## STREET DESIGN STRATEGIES

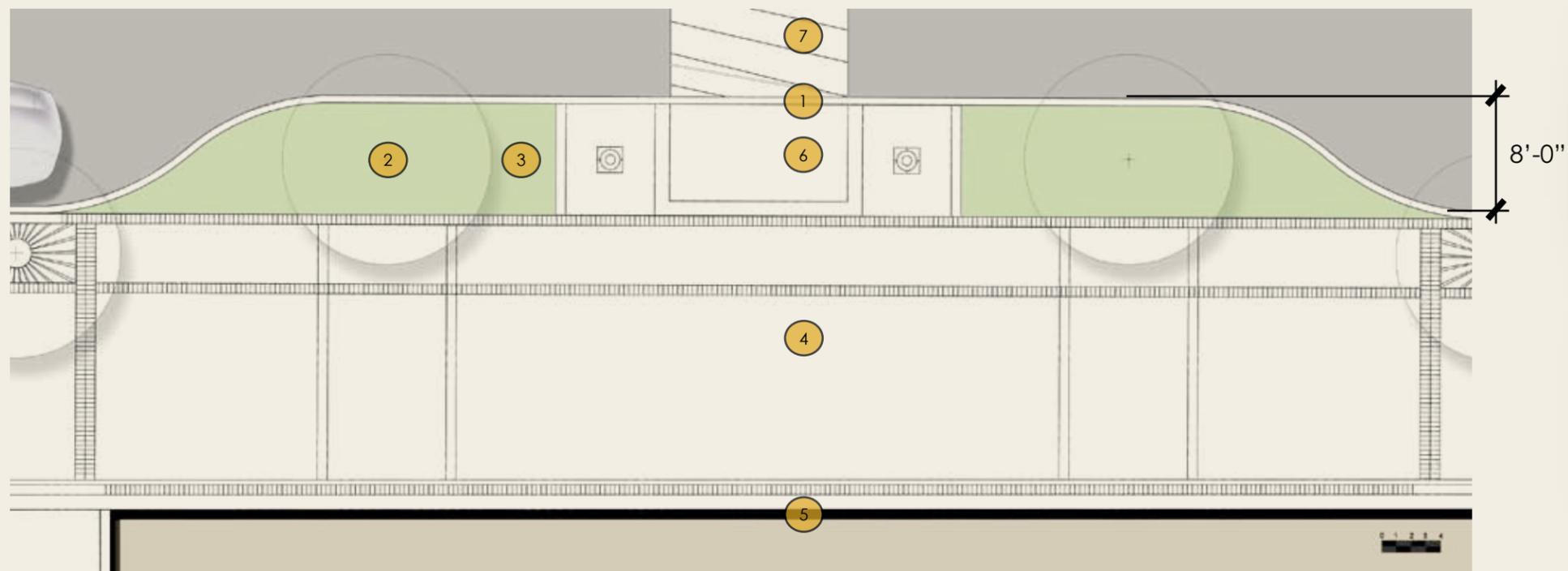
In the following pages, each street design strategy will be described. The map on page (DM83) shows where to find the application of a certain condition. Each will serve as the tools for where to apply each scenario and how it may be designed.

### CURB EXTENSION AT INTERSECTION

Extending the curb shortens the distance of pedestrian crossings at major and minor intersections. The curb extension should be a minimum of 9 feet to allow parallel parking. Ramps must be ADA accessible.

1. Curb
2. Not Used
3. Not Used
4. Sidewalk
5. Not Used
6. ADA Ramp
7. Crossing

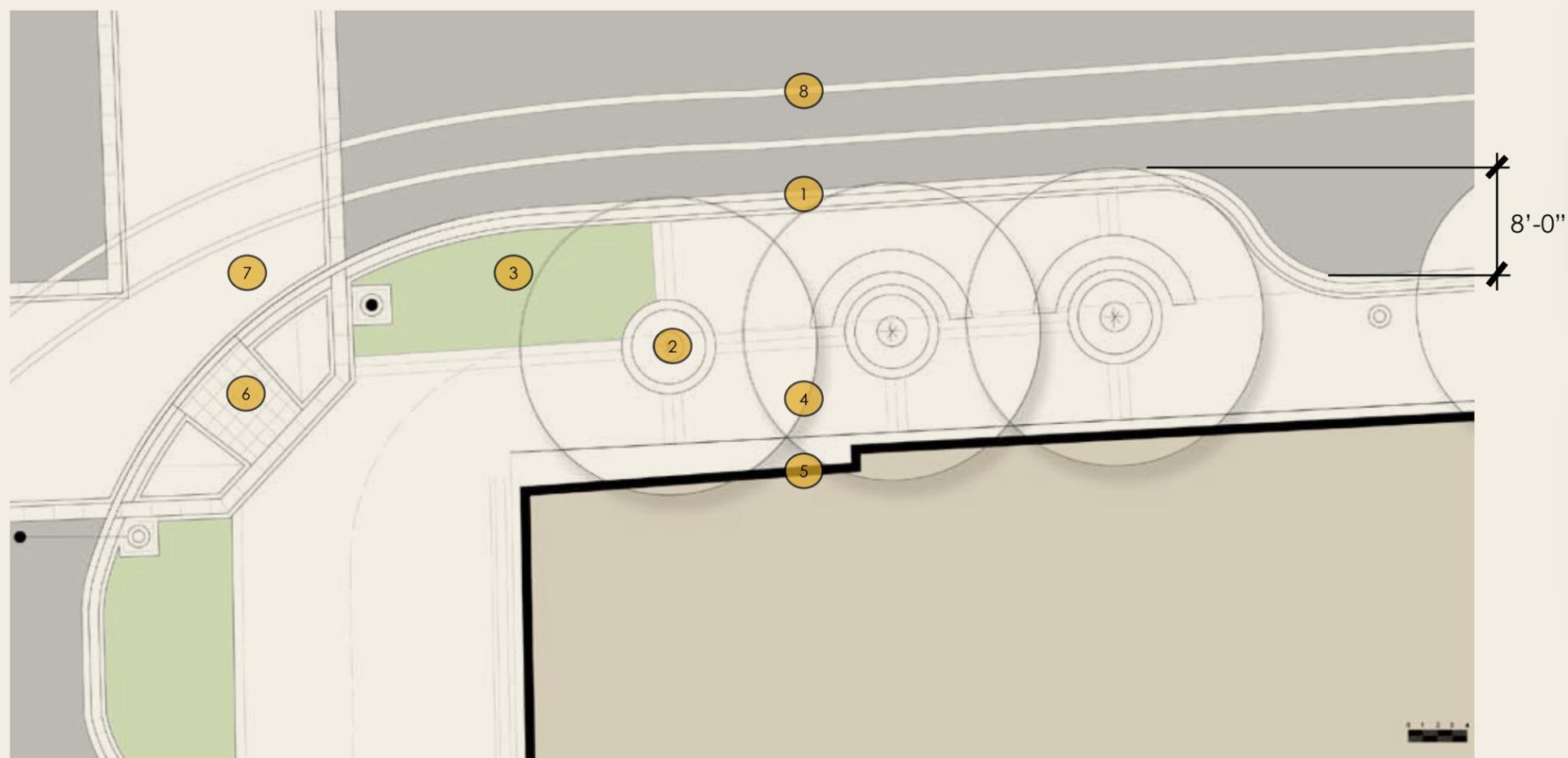




### CURB EXTENSION AT MID-BLOCK CROSSING

The curb extension at mid-block crossings allows pedestrians to cross the street between signaled intersection crossings. It will extend beyond the curb and will be designated with specialty paving patterns and large planting areas. The crossing will be well-lit with street lights.

1. Curb
2. Street Tree
3. Planting Area/Stormwater Retention
4. Sidewalk
5. Building Facade
6. ADA Ramp
7. Crossing



### CURB EXTENSION AT THE STREETCAR STOP

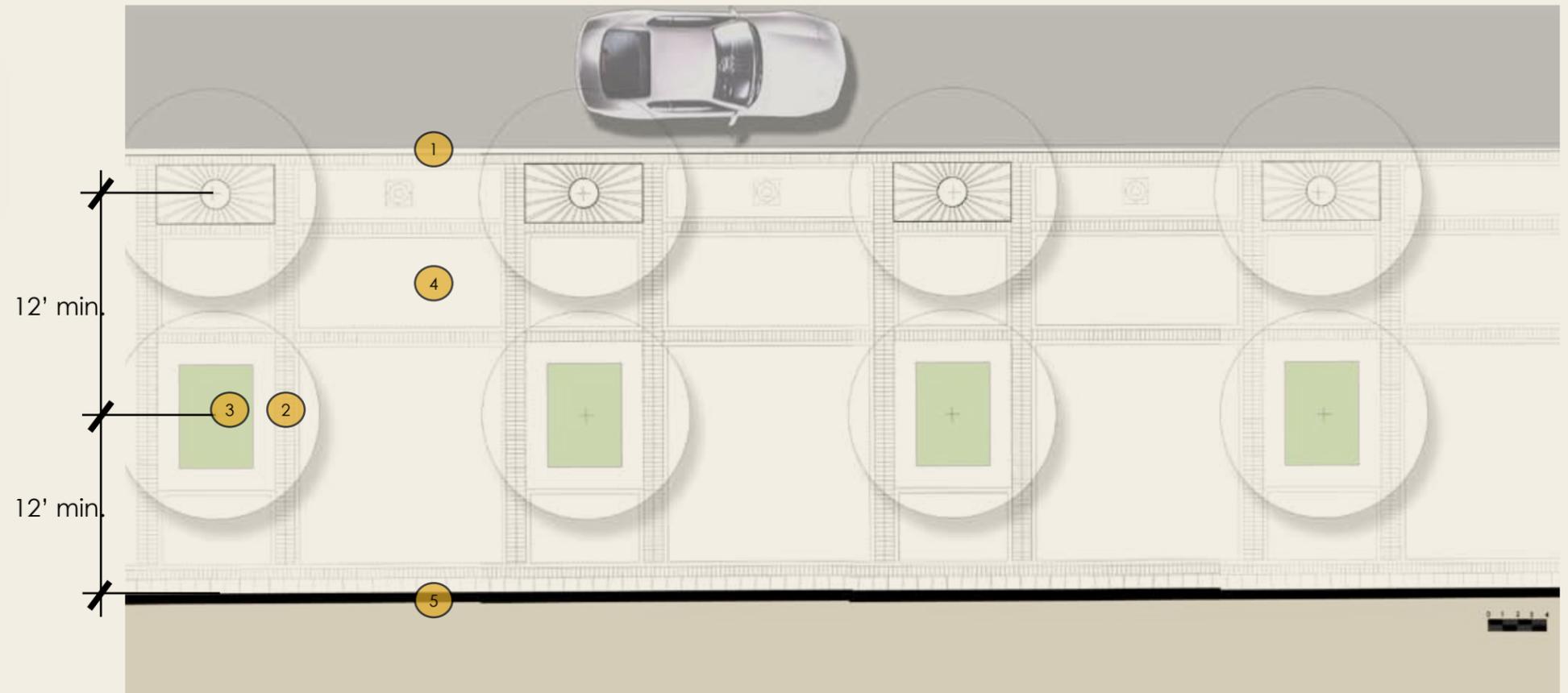
The Streetcar Stop is an area for pedestrian respite by providing seating and shade. It will incorporate specialty paving patterns, curved seating benches, and circular tree grates or raised planters. The purpose of the extensions is to allow the gathering of streetcar riders without impeding the flow of pedestrian traffic. It also functions as a specialty corner and celebrates the use of alternative transportation.

1. Curb
2. Street Tree
3. Planting Area/Stormwater Retention
4. Sidewalk
5. Building Facade
6. ADA Ramp
7. Crossing
8. Streetcar Route

ESPLANADE CONDITION

The Esplanade Condition is suggested to take place along Congress Street between 5th and 6th Avenues. It is intended to celebrate the pedestrian experience with a double row of street trees and large planters. Buildings should be setback at least 12 feet from the property line to allow space for outdoor restaurant seating and other engaging activities for pedestrians.

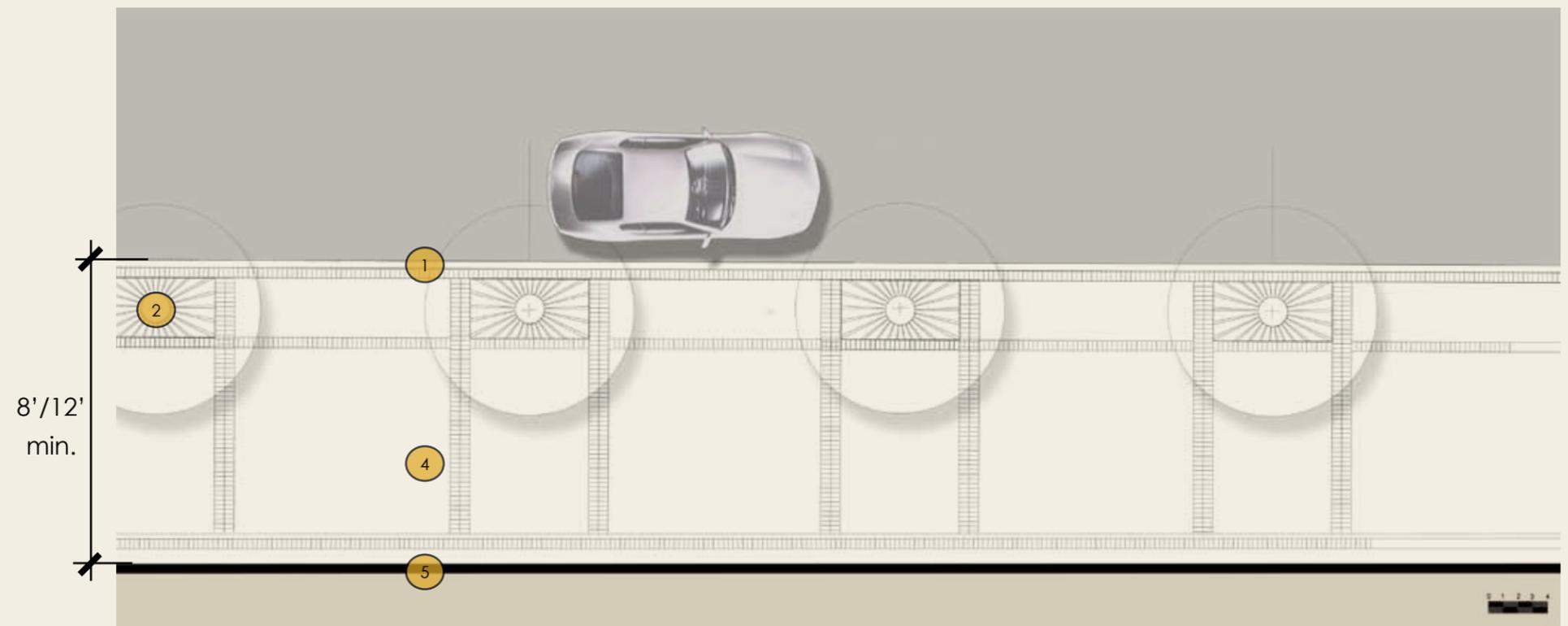
- 1. Curb
- 2. Street Tree
- 3. Planting Area
- 4. Sidewalk
- 5. Building Facade

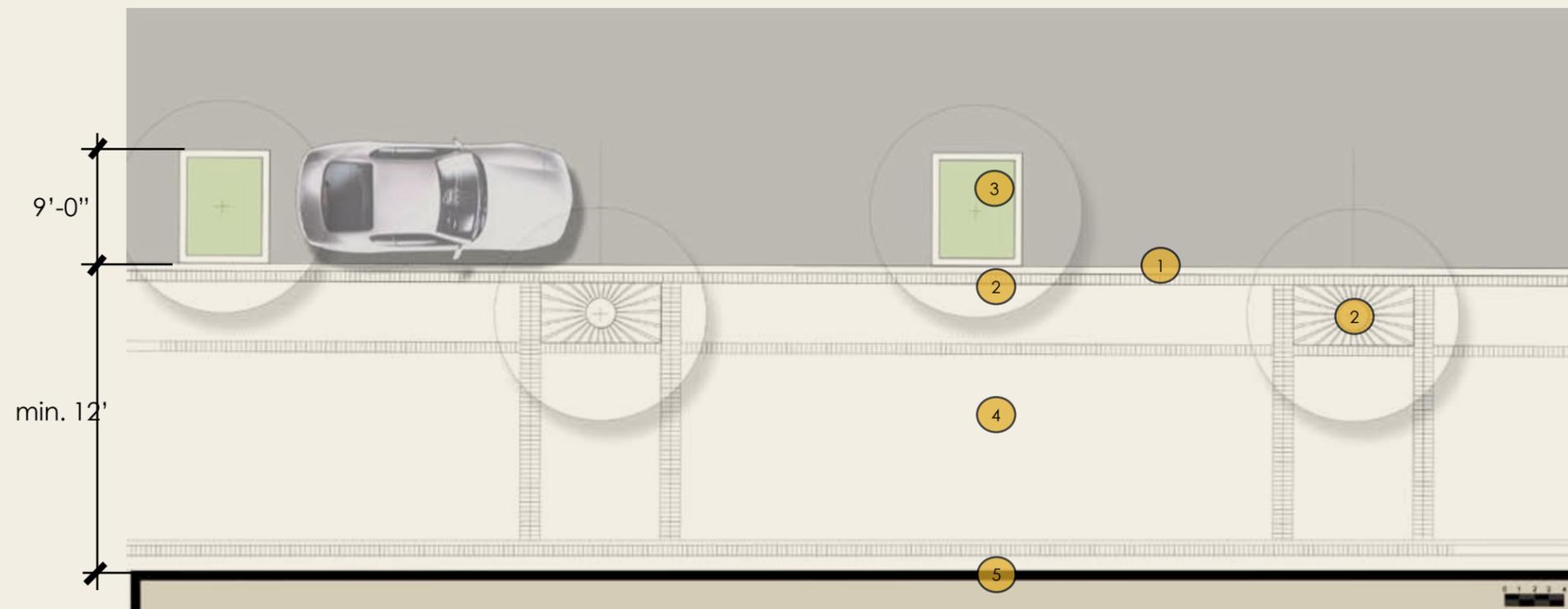


WIDE / NARROW SIDEWALK

The sidewalk condition is the typical sidewalk condition that may either be wide (min. of 12 feet) or narrow (min. of 8 feet). The sidewalk should allow enough room for street tree planting while allowing adequate room for pedestrian movement.

- 1. Curb
- 2. Street Tree
- 3. Not used
- 4. Sidewalk
- 5. Building Facade

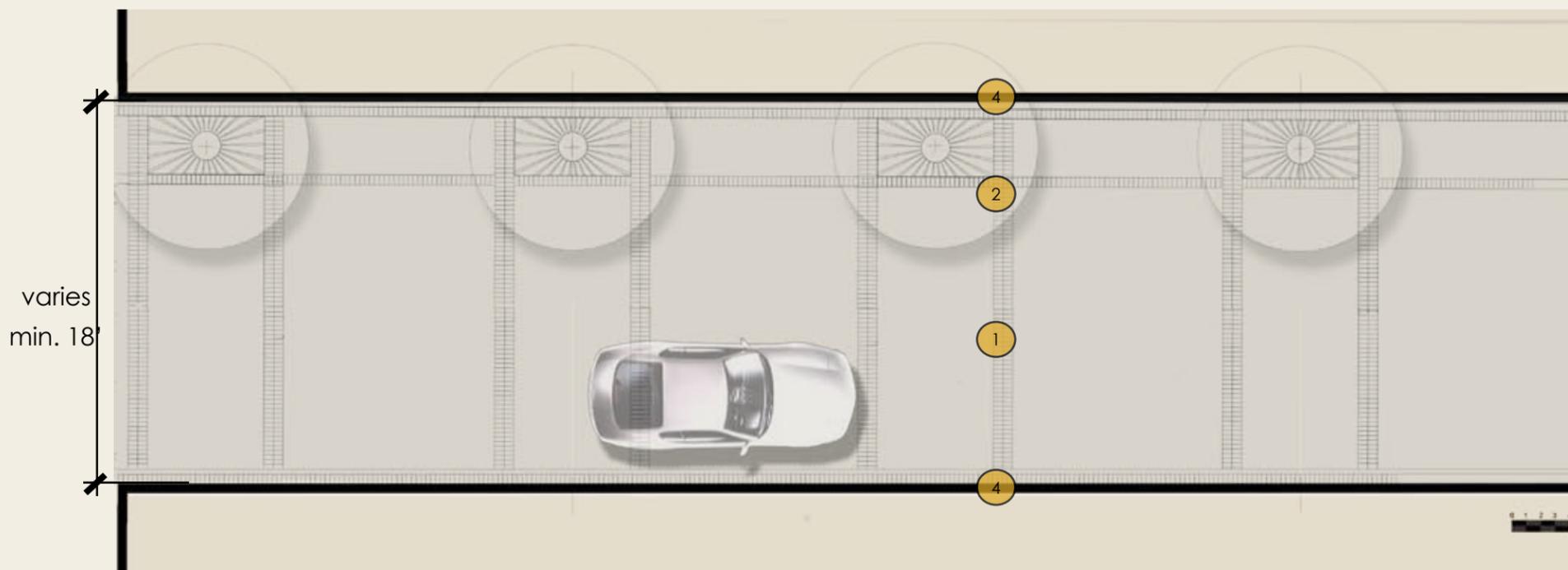




### PEDESTRIAN STREET

At the parallel parking locations, the street trees will be 25 feet on center and will alternate between placement locations on the sidewalk within a tree grate or between parallel parking spaces within a planter area.

1. Curb
2. Street Tree
3. Planting Area
4. Sidewalk
5. Building Facade



### ALLEY

The alley is the pedestrian connection behind or on the sides of buildings. Many of the alleys are currently existing and any new development should plan to maintain. The purpose is to allow pedestrian passages at mid-block locations in order to create shorter distances for pedestrians. The alleys may be accessed by service trucks but should not be treated as a back-of-house condition. They should be treated as a pedestrian friendly environment with lighting, street trees, and a simple paving pattern.

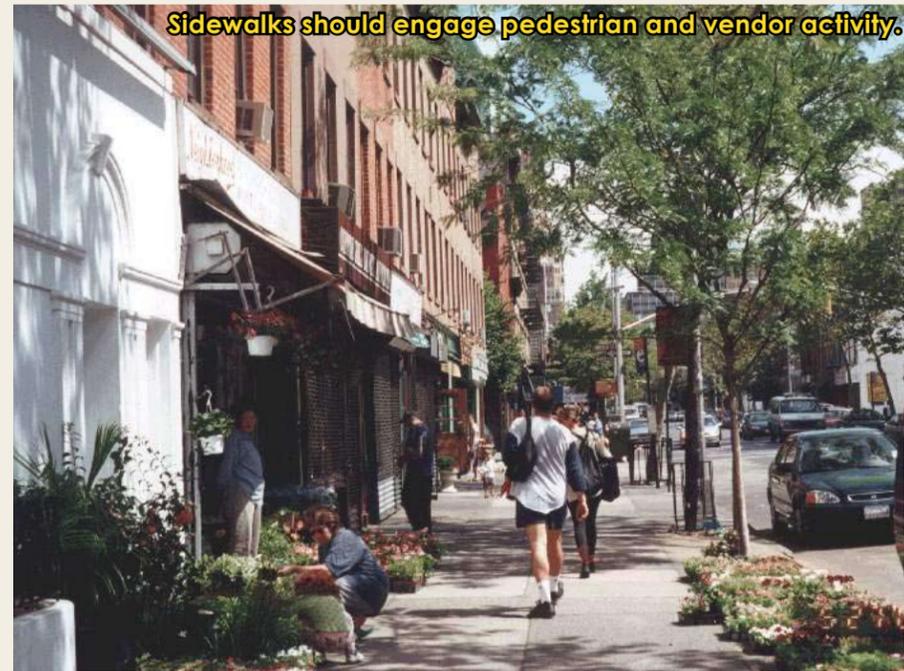
1. Drive Lane
2. Street Tree
3. Planting Area
4. Building Facade

**STREET DESIGN**

The Street Design should be designed to accommodate multi-modal traffic: auto, public transit, bike, and pedestrian. The proposed streetcar will provide a public transit service that will create more pedestrian traffic, and therefore it is essential that the street design promotes pedestrian activity and comfort. The sidewalk areas must be engaging and make the pedestrian feel protected from traffic.

Ample planting areas with street trees and flowering shrubs will promote cooling the atmosphere, add color, and soften building facades. It will also serve as a buffer between parking and pedestrian traffic and allow spaces for benches.

Curb pull-outs at critical locations will serve to widen the sidewalk for pedestrian activity and gathering. Curb extensions at the crosswalk will shorten the street crossing distance. Crossings should be clearly marked. All of these design features will be added to the existing curb design in order to promote pedestrian safety.



Sidewalks should engage pedestrian and vendor activity.



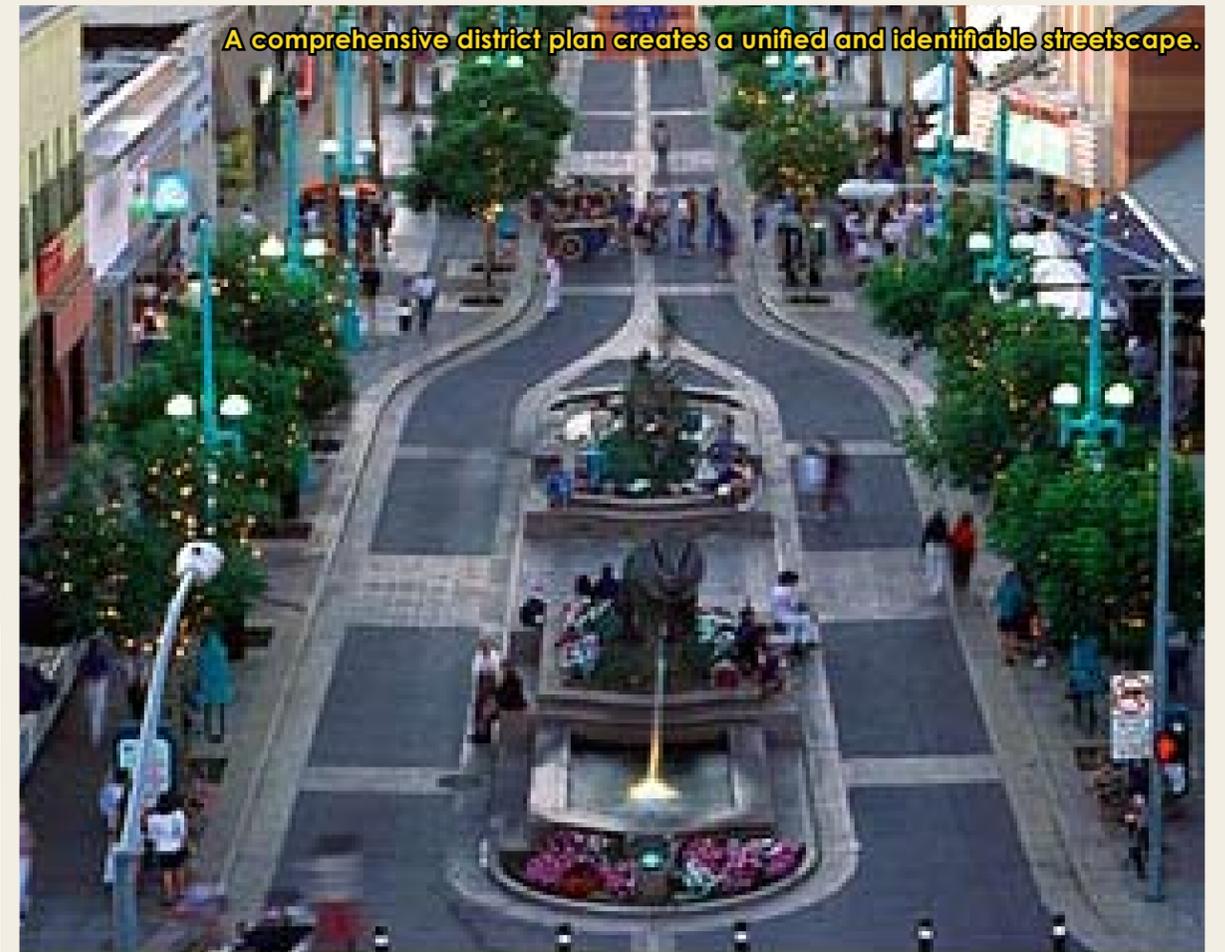
Furnishings and outdoor seating create a lively streetscape.



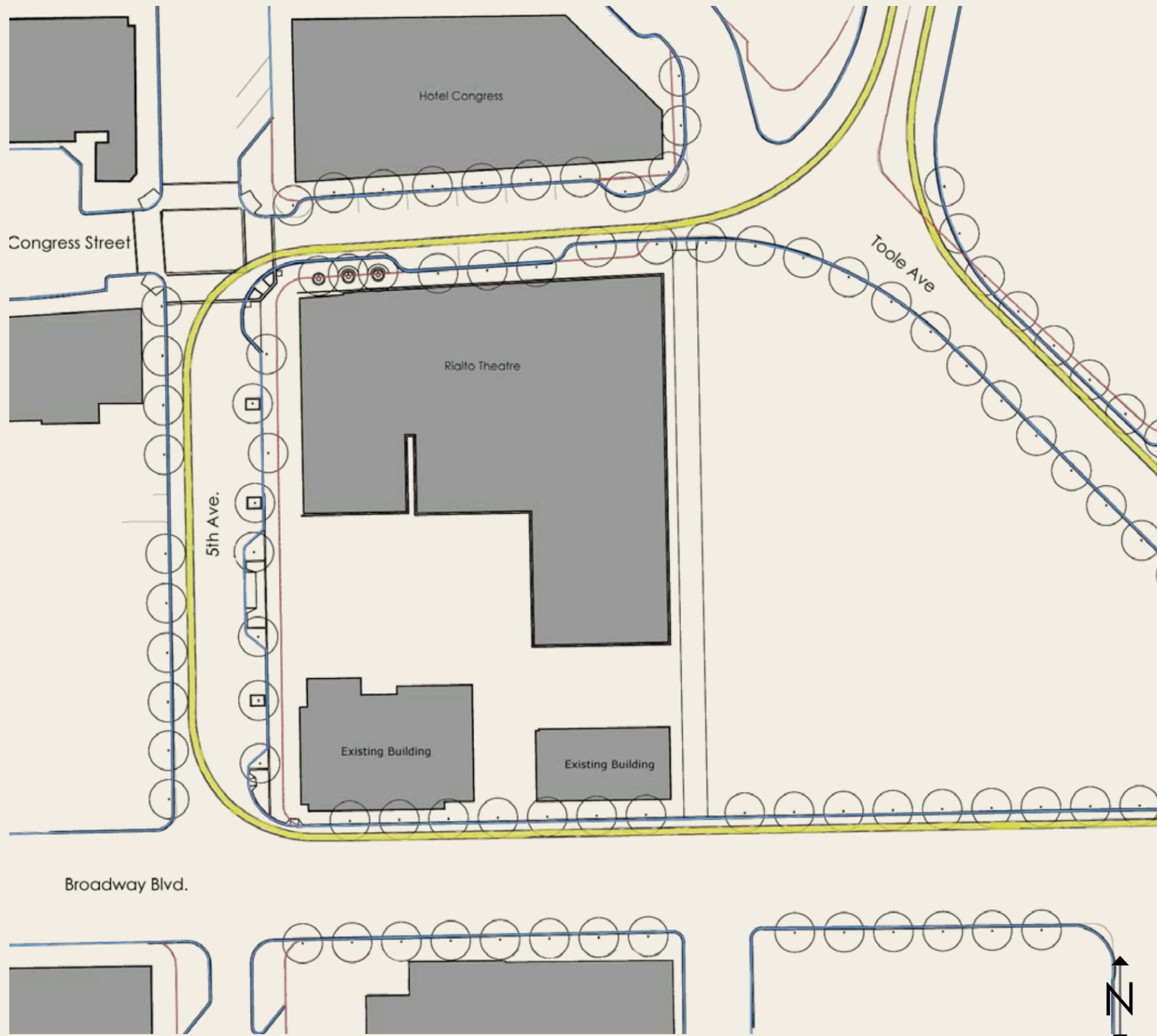
Curb extensions at intersections allow for easier crossing.



Street design should accommodate public transit and its riders.



A comprehensive district plan creates a unified and identifiable streetscape.



PROPOSED CURB EXTENSION PLAN ALONG STREET CAR ROUTE

The proposed curb design widens the sidewalk along the east side of 5th Ave. between Congress and Broadway, and also along Congress between 5th Ave. and Toole Ave. following the proposed streetcar route. Creating a pedestrian oriented environment is essential for this area. It will enhance the experience of the pedestrian by creating safer, wider streets with shade and furnishings. The wider sidewalks will also facilitate the hub of activity at the streetcar stop location at 5th Ave. and Congress.

Along 5th Ave. the existing sidewalk is quite narrow and was widened by replacing the existing on-street diagonal parking with parallel parking. Street trees are placed 25 feet on center within planters and tree grates along the street.

The streetcar stop is located along Congress Street near the intersection of 5th Ave. The sidewalk was widened in efforts to create a large seating and rest area for pedestrians.

LEGEND

- Existing Curb
- Proposed Curb
- Proposed Streetcar Route
- Existing Building



Section Eight  
Paving Design

---

PAVING DESIGN

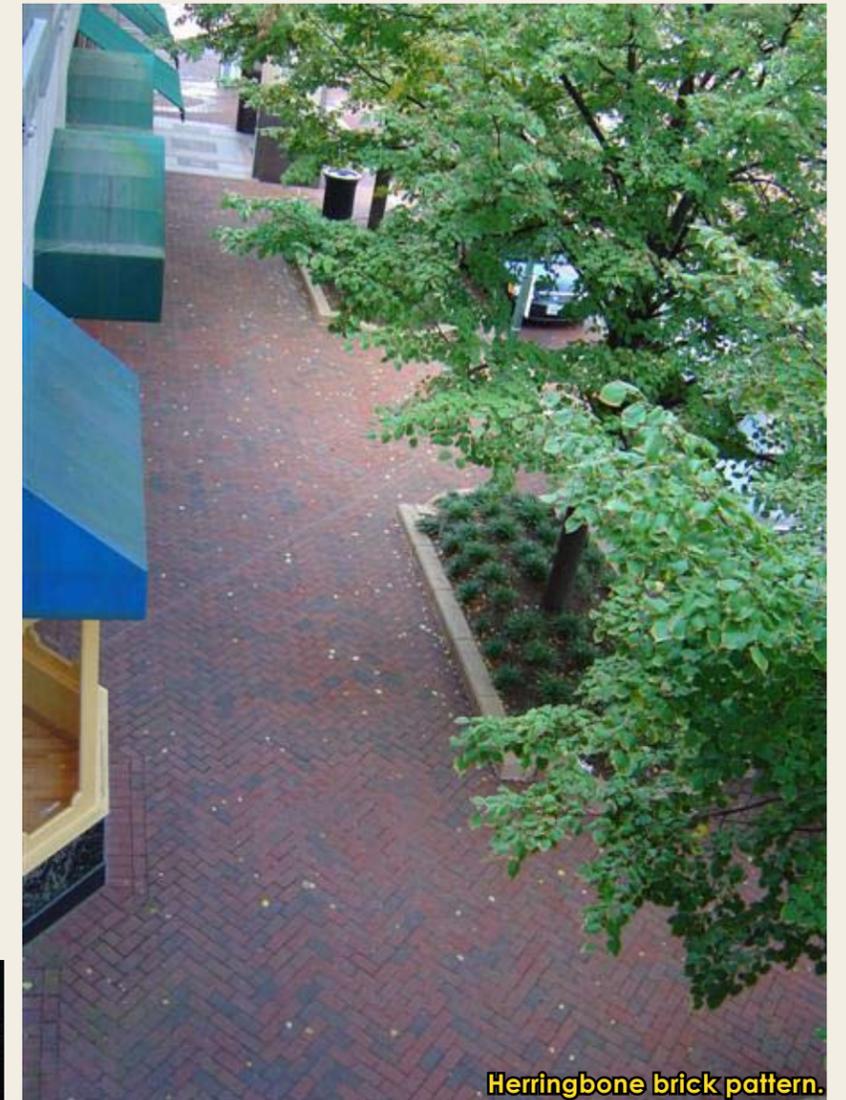
The paving design is used as a decorative and functional element. It provides an attractive streetscape character that is reminiscent of the historic red brick of Downtown Tucson and creates an identifying feature to the Congress District. The paving patterns are also used functionally to identify key areas such as intersections, crosswalks, and pedestrian rest areas.

The material of choice is a red brick in varying patterns: herringbone, basketweave, running bond, and soldier course. Brick was chosen for its versatility in paving design, its durability, and its easy replacement.

Other materials are used that complement the colors in the red brick. These materials include a cocoa brown brick, slate colored granite with a copper inlay, and slate colored detectable pavers. A permeable paver that emulates a brick paver was also chosen to be included in some of the paving designs; these areas will allow water to percolate to tree roots.



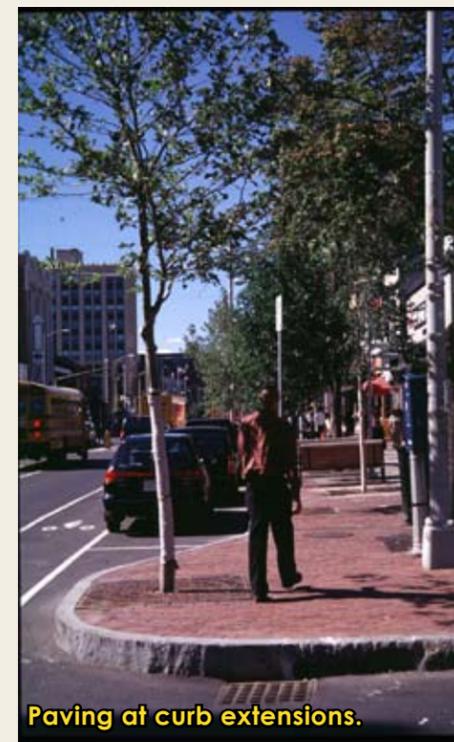
Paving used to identify crosswalks.



Herringbone brick pattern.



Decorative paving patterns.



Paving at curb extensions.



Narrow sidewalk paving pattern.



**DETECTABLE WARNING PAVERS**



**HERRINGBONE**



**RUNNING BOND**



**BASKETWEAVE**



**SOLDIER COURSE ACCENT BAND**



**RUNNING BOND ACCENT BAND**

MATERIAL SPECIFICATIONS\*\*

BRICK

TYPE A - 4"X2"X8" NOMINAL CLAY BRICK,  
COLOR: RED WITH FLASH  
MANUFACTURER: PHOENIX BRICK YARD

TYPE B - 4"X2"X8" NOMINAL CLAY BRICK  
COLOR: COCOA BROWN #46  
MANUFACTURER: PHOENIX BRICK YARD

HERRINGBONE  
BASKETWEAVE  
RUNNING BOND  
RUNNING BOND ACCENT BAND  
SOLDIER COURSE ACCENT BAND

STONE

NATURAL GRANITE PAVERS  
COLOR: SLATE GREY  
MANUFACTURER: ARIZONA TILE

DETECTABLE WARNING PAVERS  
CONCRETE PAVERS  
COLOR: CHARCOAL  
MANUFACTURER:  
HANNOVER ARCHITECTURAL PRODUCTS

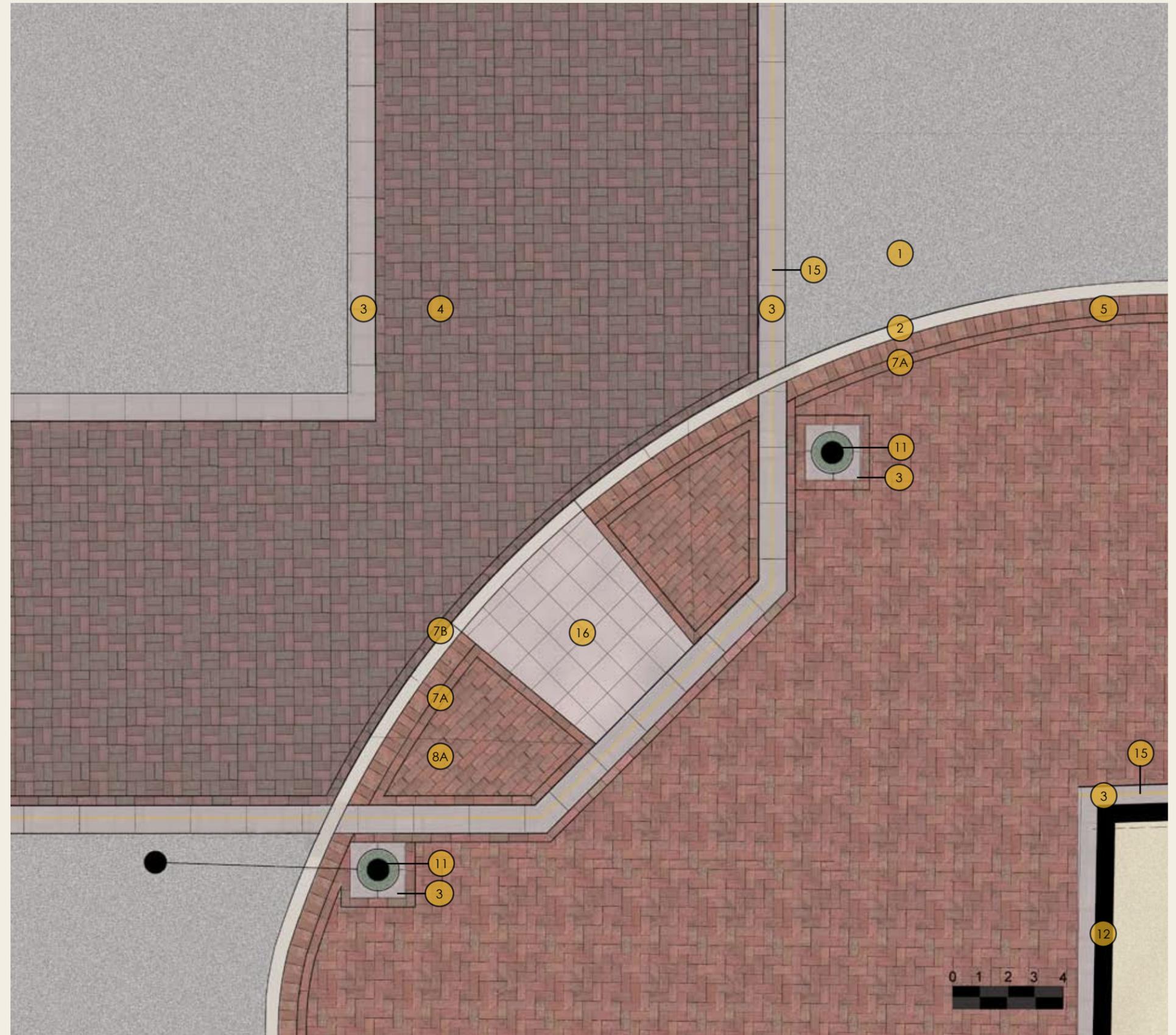
PERMEABLE PAVERS  
INTERLOCKING CONCRETE PAVERS  
(AQUA-BRIC)  
MANUFACTURER: ADVANCED  
PAVEMENT SYSTEMS

\*\*ALL SPECIFICATIONS ARE FOR  
RECOMMENDATION PURPOSES ONLY. ALL  
ITEMS MAY BE SUBSTITUTED FOR A SIMILAR  
PRODUCT.

### CROSSWALK AT MAJOR INTERSECTION

A specialty paving pattern will be used to highlight the major intersections throughout the site. It is intended to use varying paving patterns and colors to accent the different components of the sidewalk the crosswalk and the transition into the crosswalk.

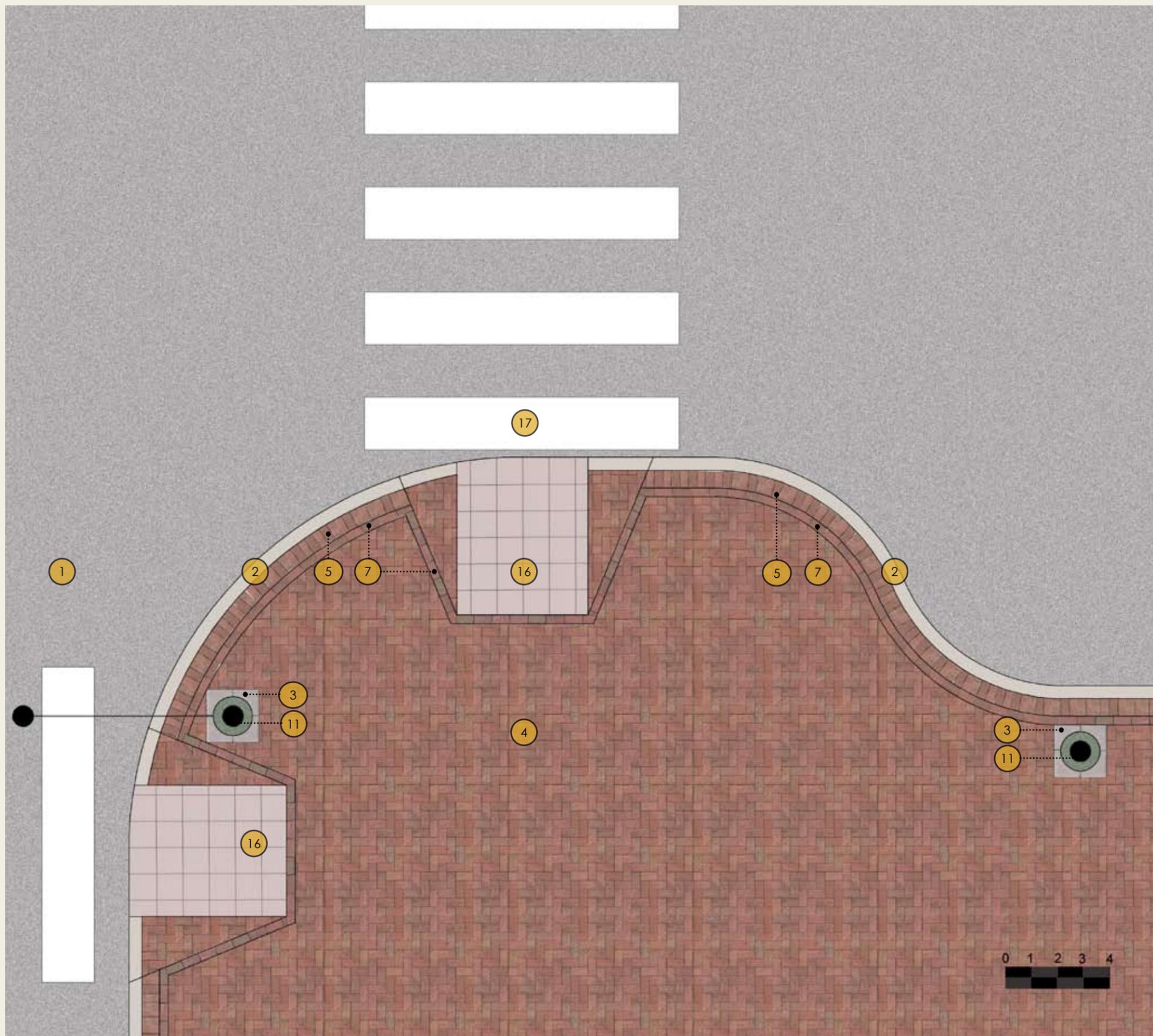
1. ASPHALT STREET
2. CONCRETE CURB
3. STONE
4. BRICK (TYPE 'A') HERRINGBONE PATTERN @ 90 DEGREE ANGLE TO CURB
- 5A. NOT USED
- 5B. BRICK (TYPE 'B') SINGLE ROW SOLDIER COURSE
6. NOT USED
- 7A. BRICK (TYPE 'A') RUNNING BOND ACCENT BAND
- 7B. BRICK (TYPE 'B') RUNNING BOND ACCENT BAND
- 8A. BRICK (TYPE 'A') RUNNING COURSE PATTERN @ 45 DEGREE ANGLE TO CURB
- 8B. NOT USED
9. NOT USED
10. STREET TREE
11. LIGHT POLE - SEE PAGE DM105 & DM106
12. BUILDING FACADE
13. NOT USED
14. NOT USED
15. COPPER INLAY (OLD PUEBLO TRAIL)
16. DETECTABLE WARNING PAVERS
17. NOT USED



CROSSWALK AT MINOR INTERSECTION

The minor intersections take place at the alleys or small street intersections. Therefore, the crosswalks at the minor intersections should not be as prominent. The brick paving in the crosswalk will be replaced by white or yellow striping.

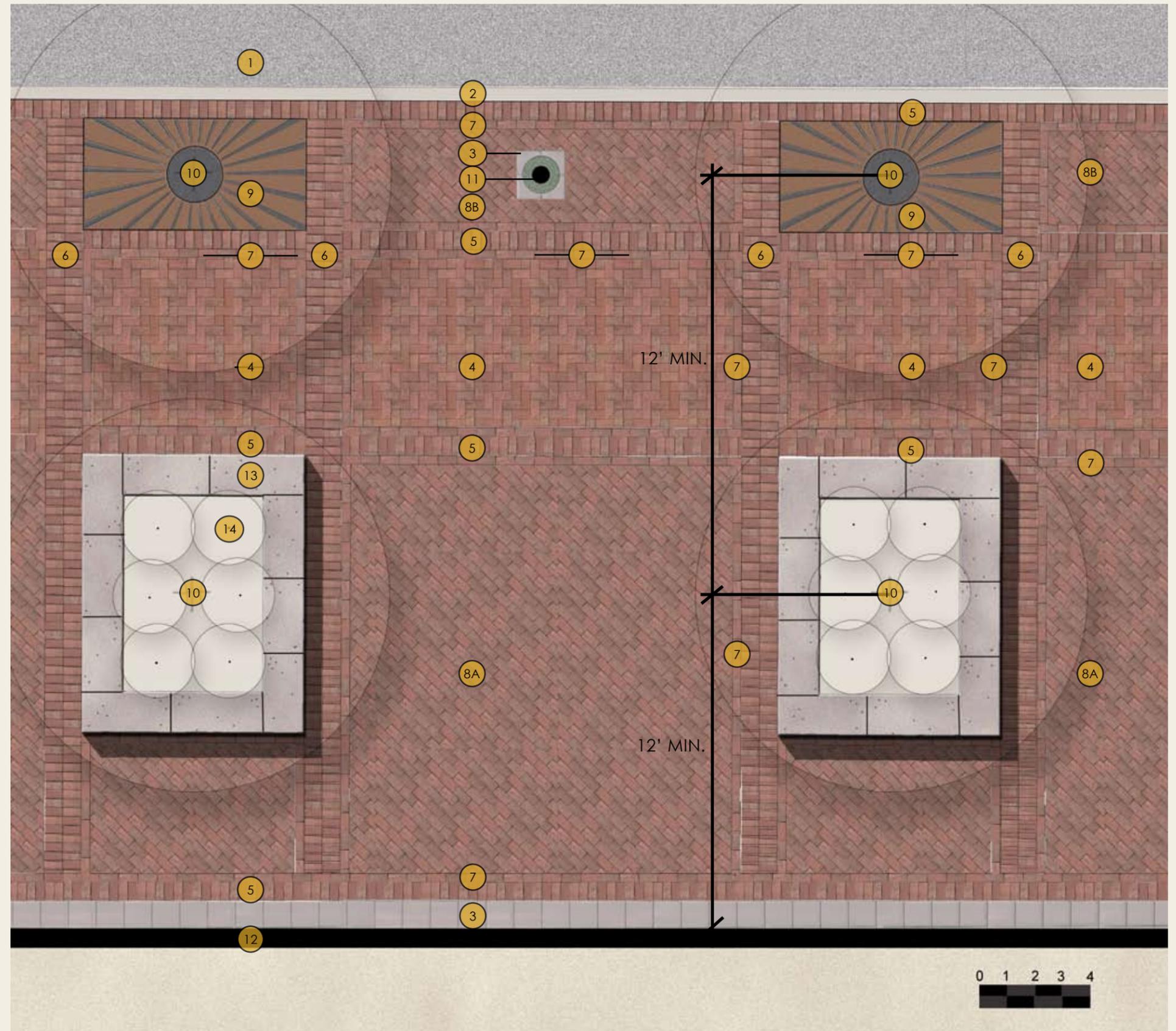
1. ASPHALT STREET
2. CONCRETE CURB
3. STONE
4. BRICK (TYPE 'A') HERRINGBONE PATTERN @ 90 DEGREE ANGLE TO CURB
5. NOT USED
6. NOT USED
- 7A. BRICK (TYPE 'A') RUNNING BOND ACCENT BAND
- 7B. NOT USED
8. NOT USED
9. TREE GRATE - SEE PAGE DM133
10. STREET TREE
11. LIGHT POLE - SEE PAGE DM105 & DM106
12. NOT USED
13. NOT USED
14. NOT USED
15. NOT USED
16. DETECTABLE WARNING PAVERS
17. CROSSWALK STRIPING

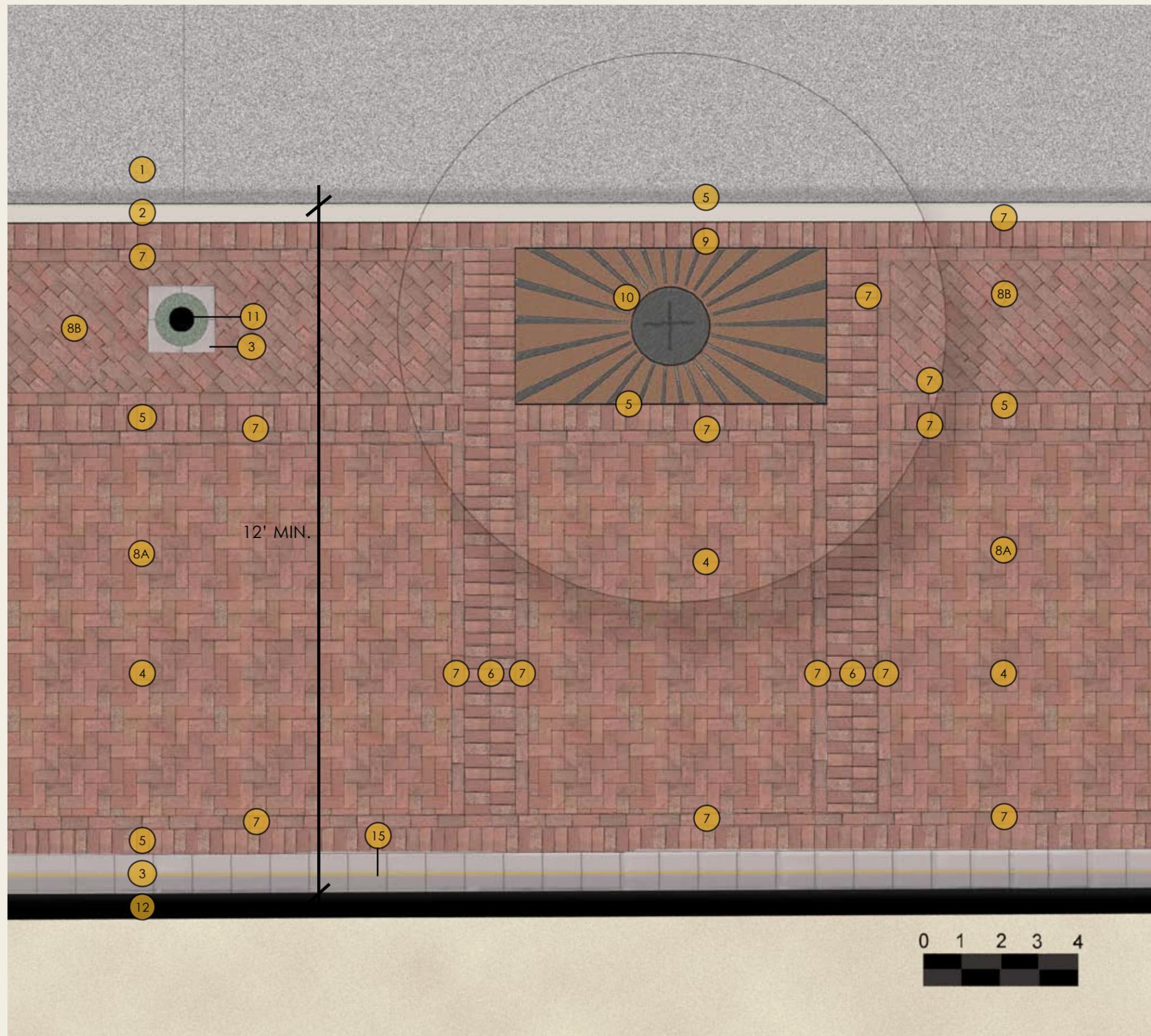


ESPLANADE SIDEWALK

The esplanade sidewalk is intended to expand the pedestrian zone to allow room for outdoor dining and other pedestrian amenities. The paving pattern should highlight the pedestrian zones and create interesting and appealing patterns.

1. ASPHALT STREET
2. CONCRETE CURB
3. STONE
4. BRICK (TYPE 'A') HERRINGBONE PATTERN @ 90 DEGREE ANGLE TO CURB
- 5A. BRICK (TYPE 'A') SINGLE ROW SOLDIER COURSE
- 5B. NOT USED
6. BRICK (TYPE 'A') DOUBLE ROW SOLDIER COURSE ACCENT BAND
- 7A. BRICK (TYPE 'A') RUNNING BOND ACCENT BAND
- 7B. NOT USED
- 8A. BRICK (TYPE 'A') RUNNING COURSE PATTERN @ 45 DEGREE ANGLE TO CURB
- 8B. PERMEABLE PAVER RUNNING COURSE PATTERN @ 45 DEGREE ANGLE TO CURB
9. TREE GRATE - SEE PAGE DM133
10. STREET TREE
11. LIGHT POLE - SEE PAGE DM105 & DM106
12. BUILDING FACADE
13. CONCRETE PLANTER
14. SHRUB / GROUND COVER PLANTING
15. NOT USED
16. NOT USED
17. NOT USED





## WIDE SIDEWALK

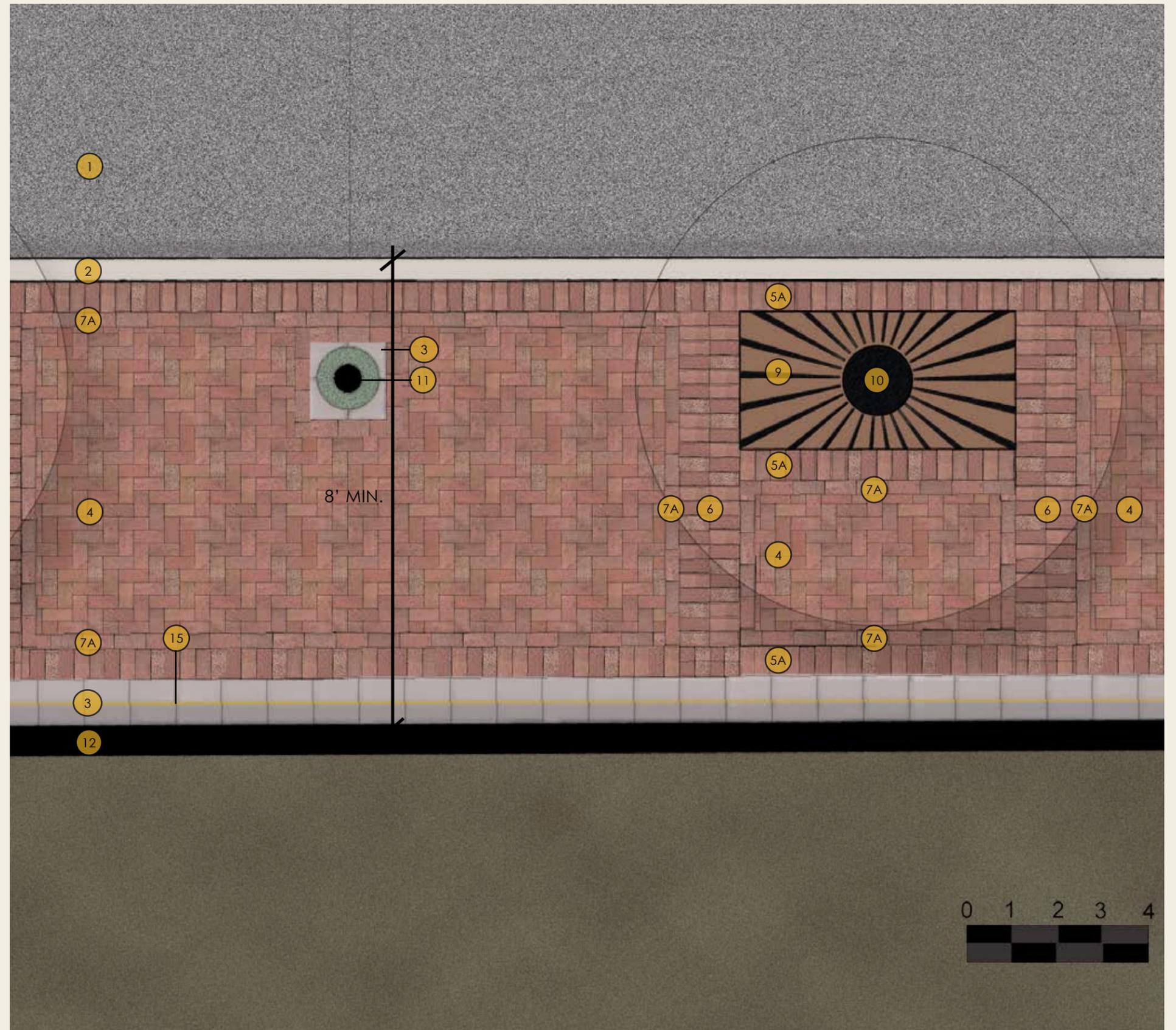
The wide sidewalk condition allows for at least 2 areas with varying brick paving patterns. The copper inlay within the stone surrounding the building facade will be used to designate the Old Pueblo Trail throughout the Downtown area.

1. ASPHALT STREET
2. CONCRETE CURB
3. STONE
4. BRICK (TYPE 'A') HERRINGBONE PATTERN @ 90 DEGREE ANGLE TO CURB
- 5A. BRICK (TYPE 'A') SINGLE ROW SOLDIER COURSE
- 5B. NOT USED
6. BRICK (TYPE 'A') DOUBLE ROW SOLDIER COURSE ACCENT BAND
- 7A. BRICK (TYPE 'A') RUNNING BOND ACCENT BAND
- 7B. NOT USED
- 8A. BRICK (TYPE 'A') RUNNING COURSE PATTERN @ 45 DEGREE ANGLE TO CURB
- 8B. PERMEABLE PAVER RUNNING COURSE PATTERN @ 45 DEGREE ANGLE TO CURB
9. TREE GRATE - SEE PAGE DM133
10. STREET TREE
11. LIGHT POLE - SEE PAGE DM105 & DM106
12. BUILDING FACADE
13. NOT USED
14. NOT USED
15. COPPER INLAY (OLD PUEBLO TRAIL)
16. NOT USED
17. NOT USED

## NARROW SIDEWALK

Because of the width of the narrow sidewalk, the ability to have multiple paving patterns is limited. A simple, attractive paving pattern is recommended.

1. ASPHALT STREET
2. CONCRETE CURB
3. STONE
4. BRICK (TYPE 'A') HERRINGBONE PATTERN @ 90 DEGREE ANGLE TO CURB
- 5A. BRICK (TYPE 'A') SINGLE ROW SOLDIER COURSE
- 5B. NOT USED
6. BRICK (TYPE 'A') DOUBLE ROW SOLDIER COURSE ACCENT BAND
- 7A. BRICK (TYPE 'A') RUNNING BOND ACCENT BAND
- 7B. NOT USED
8. NOT USED
9. TREE GRATE - SEE PAGE DM133
10. STREET TREE
11. LIGHT POLE - SEE PAGE DM105 & DM106
12. BUILDING FACADE
13. CONCRETE PLANTER
14. SHRUB / GROUND COVER PLANTING
15. COPPER INLAY (OLD PUEBLO TRAIL)
16. DETECTABLE WARNING PAVERS
17. CROSSWALK STRIPING



THIS PAGE LEFT INTENTIONALLY BLANK.



Section Nine

# Lighting Design

---

LIGHTING STRATEGY

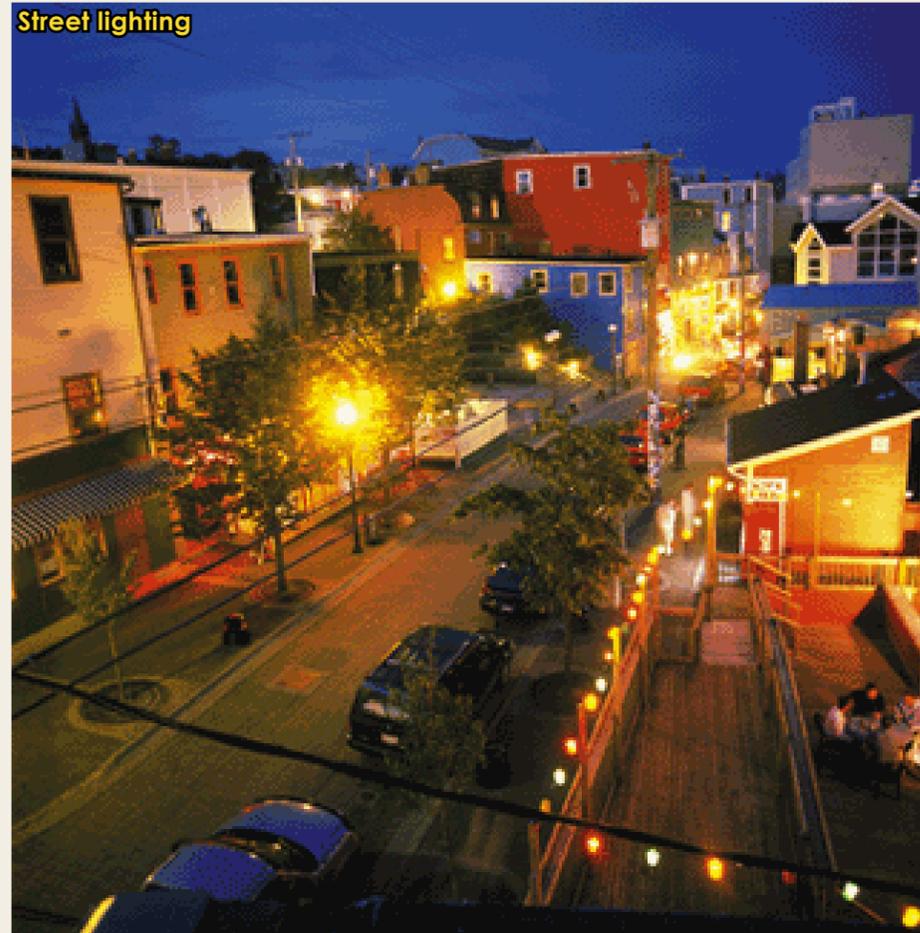
Lighting is an integral part of the streetscape design. The lighting strategy will incorporate designated District light fixtures, Congress Street light fixtures, and festive lighting. The lighting strategy will create an identity for the site area through the use of repeated elements, while the festive lighting will create diversity through playful elements.

The District and Congress Street light fixtures will reflect the history and the future of Downtown Tucson. The chosen style is reminiscent of a historical past with a modern, industrial feel. The color is a weathered bronze whose inspiration is taken from the grey-green of the desert palette. As elegant contrast, copper finish detailing is applied in the luminaires.

In addition to light post fixtures, some festival lighting should be utilized to engage participation in the events of Downtown. The festival lighting will not only be used at times to designate holidays and special festivals, but it will also be used year round to create a lively street. Festival lighting will include tree lighting and pole mounted string lighting. To complement the festival lighting, colorful banners will also be included on the light posts.



Seasonal decor



Street lighting



Street lighting



Human scale light pole fixtures



Festive lighting and luminaires



String lighting across streets and alleys

LIGHTING CONCEPT PLAN

This exhibit shows a conceptual lighting plan for the pedestrian conditions and intersections in the location and the surrounding areas of the first streetcar stop on Congress Street.



The Congress Street light fixtures have a double fixture per light post, whereas the District light fixture is single. The color and style of the light fixtures will be defined in the following pages. This style was chosen for the Streetcar study area but can be expanded throughout the entire study area and Downtown Tucson. It is preferred that the lighting, especially along Congress Street, is consistent to reinforce the streetscape identity.



**DISTRICT FIXTURES**

The lighting fixtures will help create a unified character for the District. The lighting fixture style chosen is specified below. One option is a single-armed light fixture and a simple base.

1. POLE MOUNTED ARM
2. LUMINAIRE ( TYPE 'A' )
3. TROLLEY WIRE
4. TRAFFIC SIGNAL
5. STREET SIGN: *SIZE & HEIGHT PLACEMENT TO BE VERIFIED.*
6. SINGLE ARM LUMINAIRE MOUNTS
7. LUMINAIRE ( TYPE 'B' )
8. MULTI-PURPOSE ROUND TAPERED POLE  
COLOR: WEATHERED BRONZE
9. DECORATIVE BASE  
COLOR: CUSTOM DARK WEATHERED BRONZE
10. BANNER POLE ATTACHMENT
11. BANNER

**SPECIFICATIONS:**

BASE:  
STYLE No.: DB1  
UNIVERSE COLLECTION  
MANUFACTURER:  
ARCHITECTURAL AREA LIGHTING

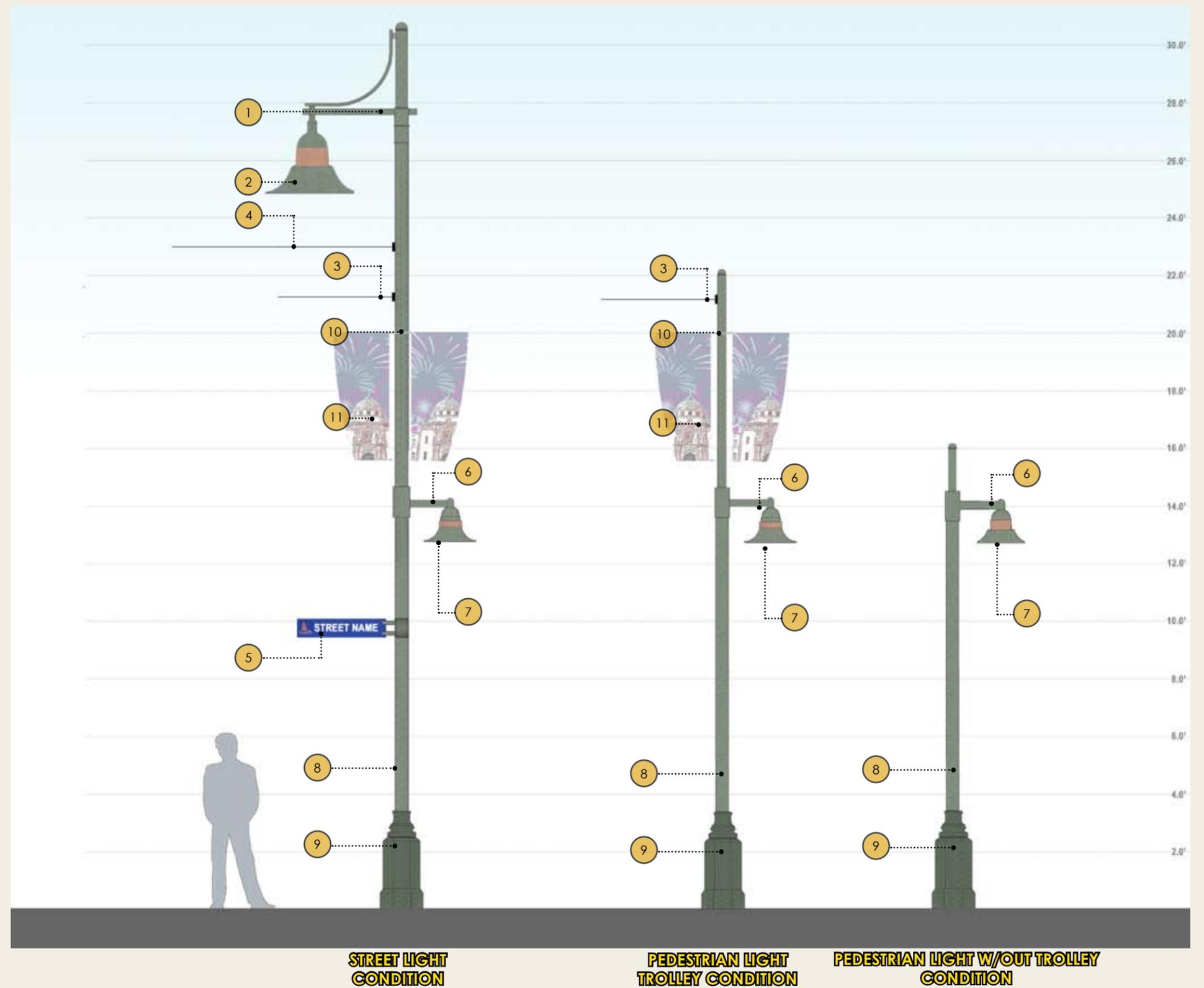
**LUMINAIRES:**

TYPE 'A' - FULL CUT-OFF ILLUMINATION; FLARED HOOD; COPPER PLATED ACCENT  
UNIVERSE COLLECTION (LARGE SCALE)

TYPE 'B' - FULL CUT-OFF ILLUMINATION; FLARED HOOD; COPPER PLATED ACCENT  
UNIVERSE COLLECTION (MEDIUM SCALE)

**MANUFACTURER:**

ARCHITECTURAL AREA LIGHTING



CONGRESS STREET FIXTURES

Congress Street will be identifiable through the use of a twin arm light post fixture and a more fluted decorative base. The color and style will be used within the 4th Ave. trolley project but the color, banners, and other details may be altered in order to identify the areas along the full extents of Congress Street.

1. POLE MOUNTED ARM
2. LUMINAIRE ( TYPE 'A' )
3. TROLLEY WIRE
4. TRAFFIC SIGNAL
5. STREET SIGN: *SIZE & HEIGHT PLACEMENT TO BE VERIFIED.*
6. TWIN ARM LUMINAIRE MOUNTS
7. LUMINAIRE ( TYPE 'B' )
8. MULTI-PURPOSE ROUND TAPERED POLE  
COLOR: WEATHERED BRONZE
9. DECORATIVE BASE  
STYLE: DB 8  
COLOR: CUSTOM DARK WEATHERED BRONZE
10. BANNER POLE ATTACHMENT
11. BANNER

**SPECIFICATIONS:**

**BASE:**  
 CATALOG NO: DB2  
 UNIVERSE COLLECTION  
 MANUFACTURER:  
 ARCHITECTURAL AREA LIGHTING

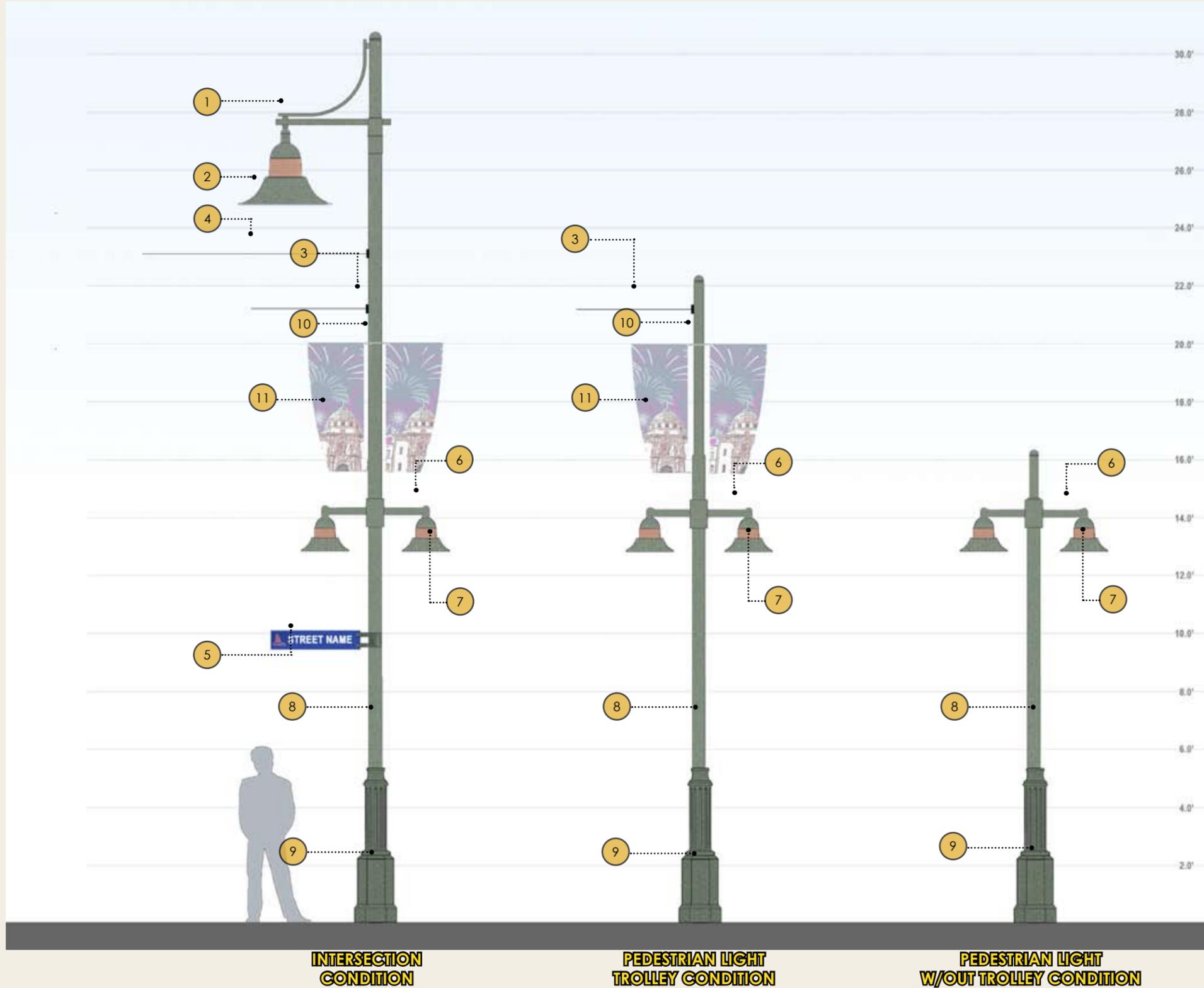
**LUMINAIRES:**

TYPE 'A' - FULL CUT-OFF ILLUMINATION; FLARED HOOD; COPPER PLATED ACCENT  
 UNIVERSE COLLECTION (LARGE SCALE)

TYPE 'B' - FULL CUT-OFF ILLUMINATION; FLARED HOOD; COPPER PLATED ACCENT  
 UNIVERSE COLLECTION (MEDIUM SCALE)

**MANUFACTURER:**

ARCHITECTURAL AREA LIGHTING



INTERSECTION CONDITION

PEDESTRIAN LIGHT TROLLEY CONDITION

PEDESTRIAN LIGHT W/OUT TROLLEY CONDITION



Section Ten

# Site Furnishings

---

**SITE FURNISHINGS**

Site furnishings will include benches, planting pots, railings, bollards, trash receptacles, bicycle racks, and public art. The furnishings are part of the fabric of creating an identity for the Congress District. The furnishings will be reminiscent of a historical character with a slightly modern twist, and will be used for the comfort and convenience of the pedestrian. The finishes and textures of the materials will include clay, concrete, and metal. Recycled materials are encouraged, as well as furniture created by local artists.

Instead of placing the site amenities at regular intervals, special consideration should be given to their relation to adjacent land uses. Site amenities are most needed where there are hubs of activities such as in front of shops, offices, residences, food shops, and at transit stops. Site amenities should not be placed in isolated areas with little to no activity or in front of buildings without windows in efforts to decrease vandalism and non-use.

It is important to place furnishings out of the direct line of pedestrian traffic or directly along parallel parking as to impede opening car doors. Ample room should be given for wheelchair access and leg room for pedestrians. Multiple options and configurations should be considered to allow for single or group users to feel comfortable or allow conversation.

In the following pages, some configurations for furnishings are given as examples of placement along the sidewalk. It is important to note the width of the sidewalk or other restrictions or opportunities that may influence the placement of site furnishings, such as street trees or raised planters.



Flower pots in variety of sizes provide seasonal color.



Single chairs and tables offer more options for pedestrians.



Bollards used as a barrier between pedestrian and auto.



Site furnishings may also be public art displays.



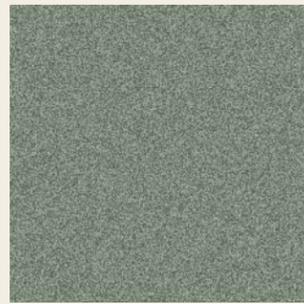
Armrest in center of bench creates places for sitting, not sleeping.



Trash receptacles should be sturdy and have sufficient size openings.



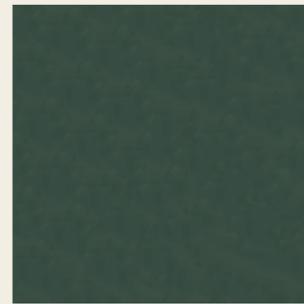
Bike racks should be provided to promote bike ridership.



LIGHT POSTS  
WEATHERED BRONZE  
ARCHITECTURAL AREA  
LIGHTING



LIGHT POST BASES  
DARK GREEN  
ARCHITECTURAL AREA  
LIGHTING



BENCHES, TRASH BINS  
OLIVE  
LANDSCAPEFORMS



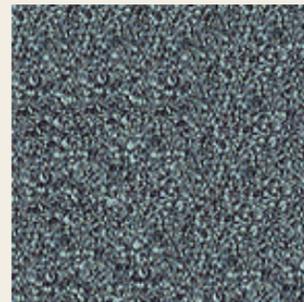
BENCHES, TRASH BINS,  
TRASH GRATES  
BLACK  
LANDSCAPEFORMS



BOLLARDS  
SAND BLAST  
STONEWEAR



BOLLARDS  
NATURAL SAND  
STONEWEAR



BENCHES  
VERDIGRIS  
LANDSCAPEFORMS



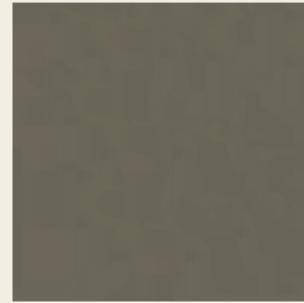
BENCHES, TRASH BINS  
BRONZE  
LANDSCAPEFORMS



POTS  
CAST ROCKPORT  
GRANITE FINISH  
QUICK CRETE



POTS  
PRAIRIE TAN  
QUICK CRETE



TRASH BINS  
TITANIUM  
LANDSCAPEFORMS



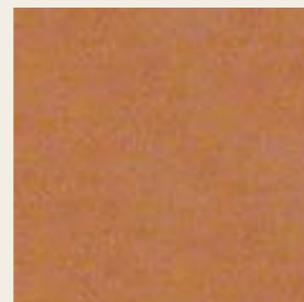
TRASH BINS  
STONE  
LANDSCAPEFORMS



POTS  
TUSCAN WHITE  
QUICK CRETE



POTS  
OXFORD GOLD  
QUICK CRETE



TREE GRATES  
RUST PATINA  
IRONSMITH



BIKE RACKS, TREE  
GRATES, RAILINGS  
PLATINUM GREY

COLOR

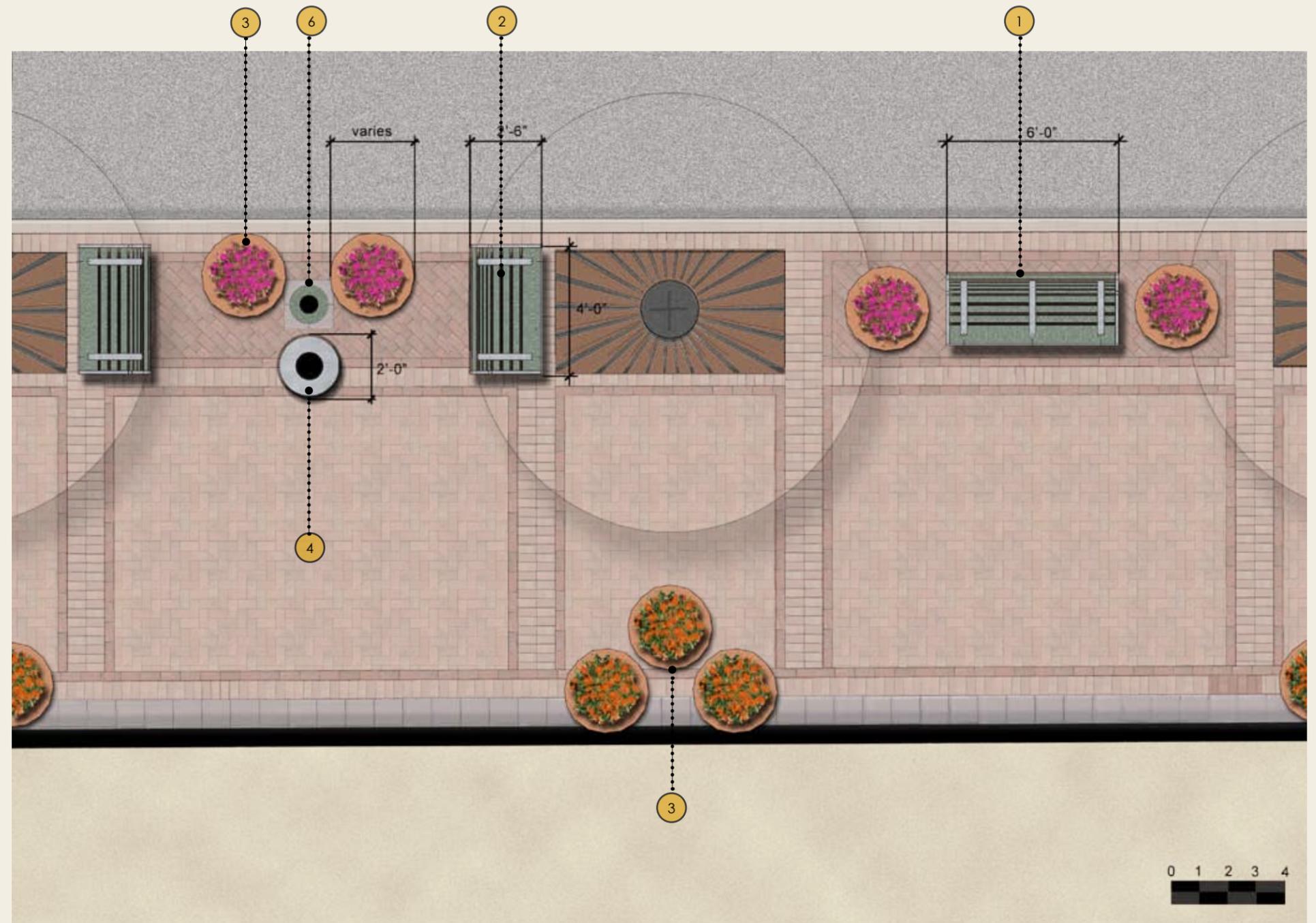
The color palette of the site furnishings will invoke the earth tones of the natural desert with the accent of industrial and mined metals such as steel and copper. The color of the light post has been chosen for the pilot area. It will be the one element that will have the same colors throughout the rest of the Congress District. Other colors for site furnishings were chosen to complement the light fixtures and stay within the chosen color palette.

Although one color scheme was chosen for the light fixtures, multiple colors within a color range were selected for the remaining furnishings to allow variety within the streetscape. The colors are recommendations within a color palette and can be substituted with a similar color within the range.

WIDE SIDEWALK CONDITION

The wide sidewalk condition allows for multiple site furnishing configurations. Benches have been placed between the street trees to take advantage of the shade and also to be out of the way of the pedestrian passageway. Plant pots can be placed in front of store or office entrances to invite pedestrians and visitors.

1. LONG BENCH (app. 3'X6'X2.5') - SEE DM114
2. SHORT BENCH (app. 3'X4'X2.5') - SEE DM114
3. PLANTING POTS - SEE DM115
4. TRASH RECEPTACLE - SEE DM116
5. NOT USED
6. LIGHT FIXTURE - SEE DM105 & 106
7. CONCRETE PLANTER (8'X10'X3')



NARROW SIDEWALK CONDITION

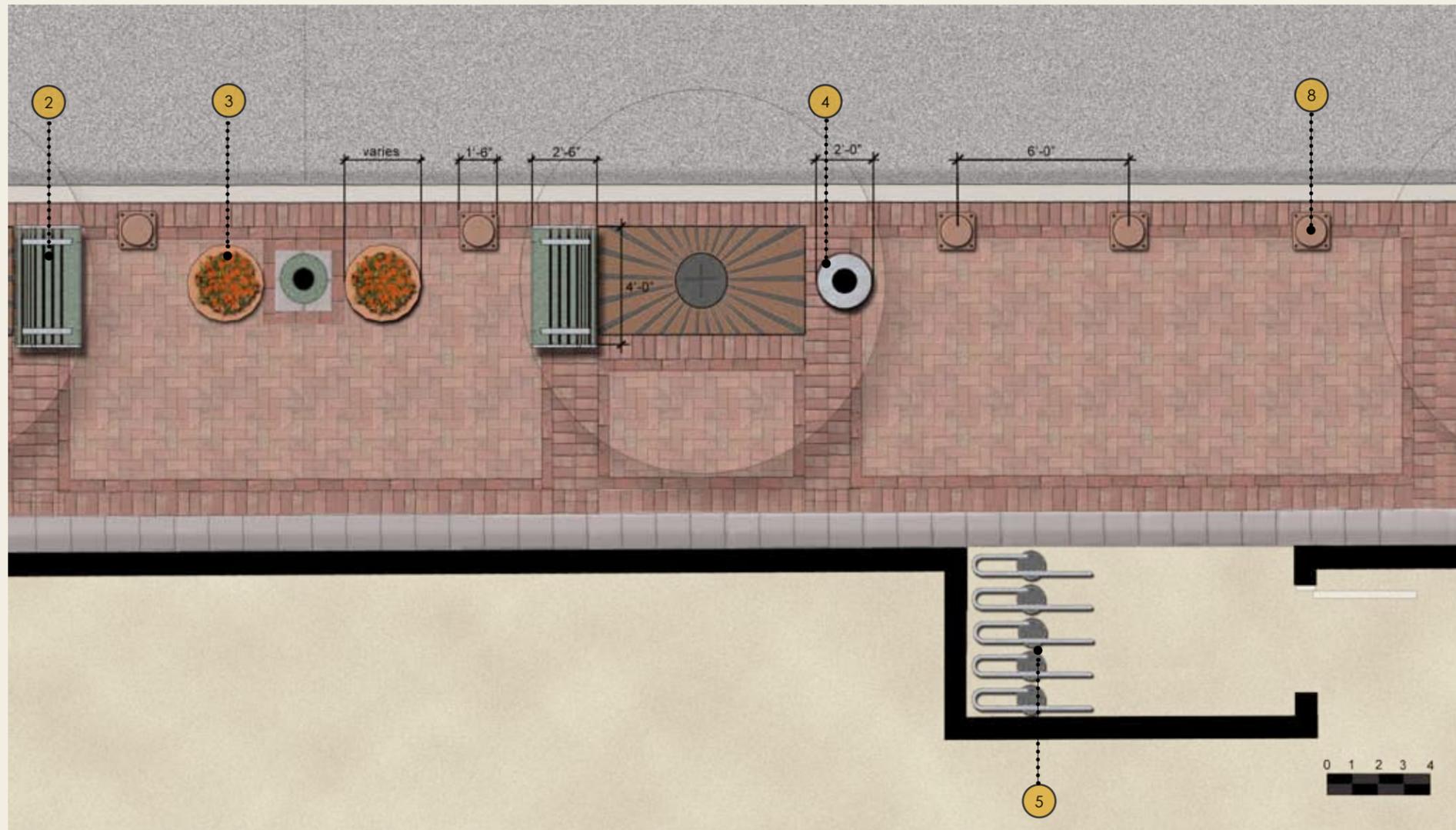
The narrow sidewalk condition is a bit more restrictive due to space availability. Shorter benches may be placed in between street trees.

Bollards may also replace benches as a place to lean but also acting as a barrier between the pedestrian and the auto.

Plant pots should be placed between facing benches in order to give a center of focus or visual barrier. A few smaller planter pots can line the building facades and entrances.

Due to the tightness of the narrow sidewalk condition, some property owners may include a bicycle storage area that is pulled back from the property line.

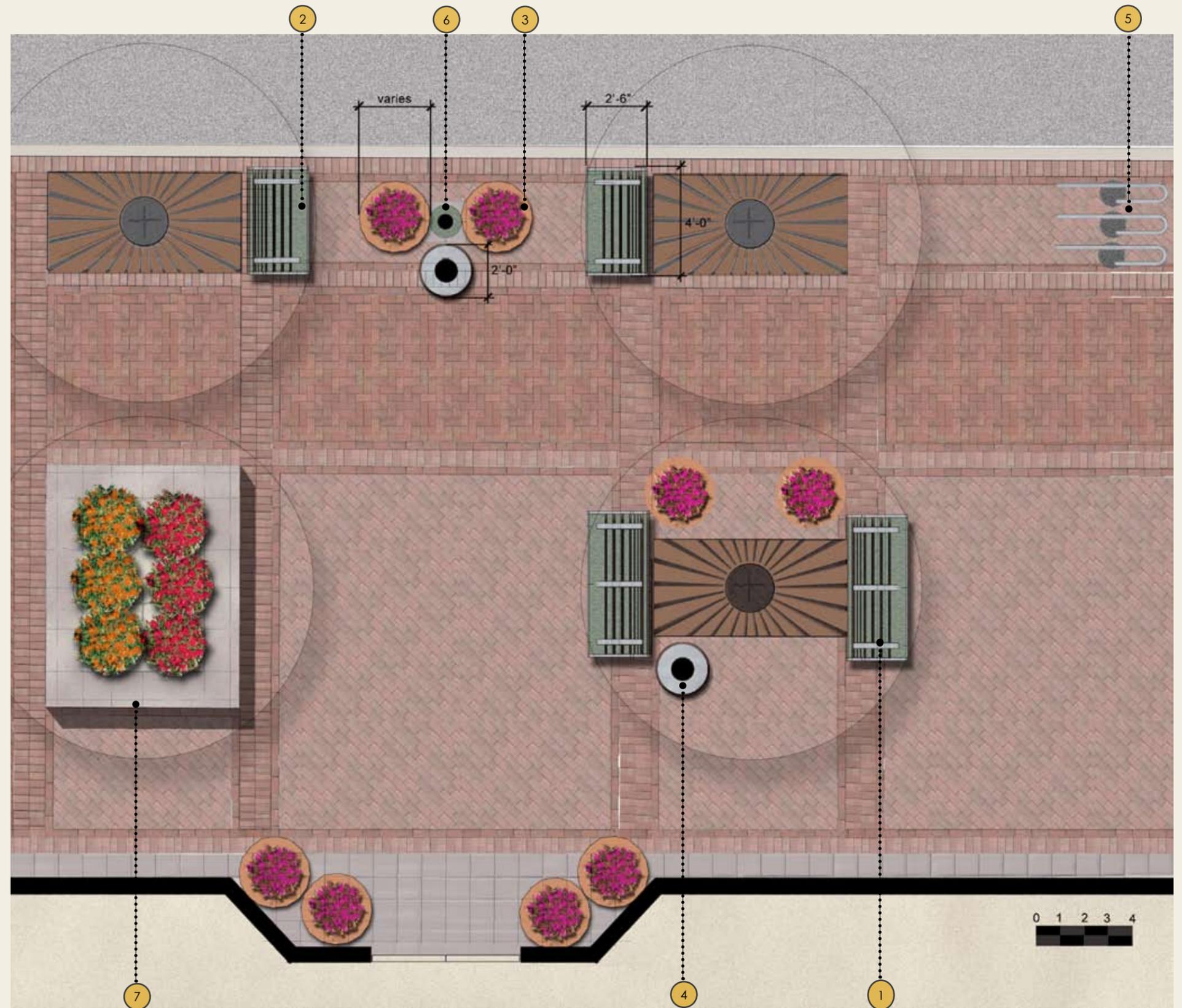
1. NOT USED
2. SHORT BENCH (app. 3'X4'X2.5') - SEE DM114
3. PLANTING POTS - SEE DM115
4. TRASH RECEPTACLE - SEE DM116
5. BICYCLE RACK - SEE DM117
6. LIGHT FIXTURE - SEE DM105 & 106
7. NOT USED
8. BOLLARD

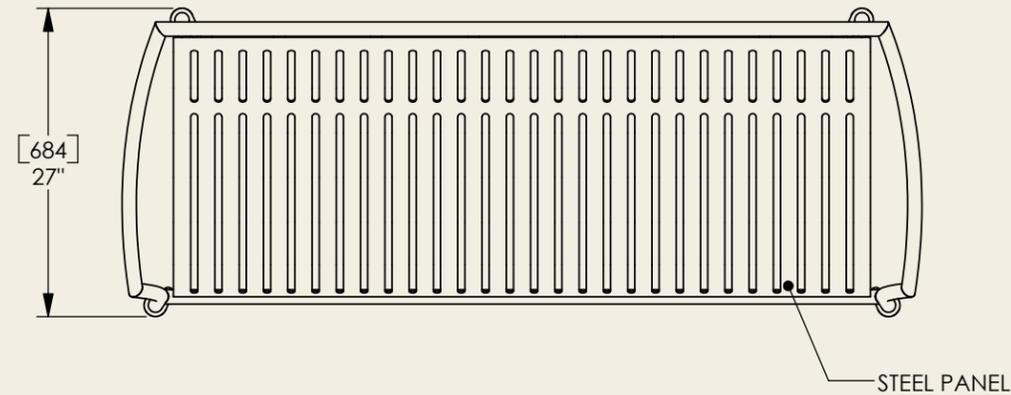


ESPLANADE SIDEWALK CONDITION

The esplanade sidewalk condition allows many more opportunities for site furnishing placement. Multiple areas will allow places to create pedestrian hubs. The sidewalk in this condition is wide enough to accommodate raised planters that can double as seating. The spacing between the 2 rows of pedestrian traffic will also accommodate outdoor seating for restaurants and food shops.

1. LONG BENCH (app. 3'X6'X2.5') - SEE DM114
2. SHORT BENCH (app. 3'X4'X2.5') - SEE DM114
3. PLANTING POTS - SEE DM115
4. TRASH RECEPTACLE - SEE DM116
5. BICYCLE RACK - SEE DM117
6. LIGHT FIXTURE - SEE DM105 & 106
7. CONCRETE PLANTER (8'X10'X3')





**SITE FURNISHINGS**

On the following pages, for each site furnishing, a suggested style is provided that may be used throughout the study area. The style was chosen because it had a historical character with a modern feel. The style given is suggested for Congress Street, but other similar styles are permitted throughout the rest of the study area. Specifications are provided with the suggested product. The colors of each will refer back to the color chart on page DM110.

**Benches**

Manufacturer: LandscapeForms

Style: Towne Square

Dimensions:

32" bench: 27" x 32" x 32"

49" bench: 27" x 32" x 49"

70" bench: 27" x 32" x 70"

Seat and back are a single panel formed for comfort. Vertical steel strap and perforated seat styles.

Offered in 32", 49", or 70" lengths.

One divider may be specified for the 49" bench. 70" bench, may be specified with two intermediate dividers.

Freestanding glides included; bench may be surface mounted with glides in place.

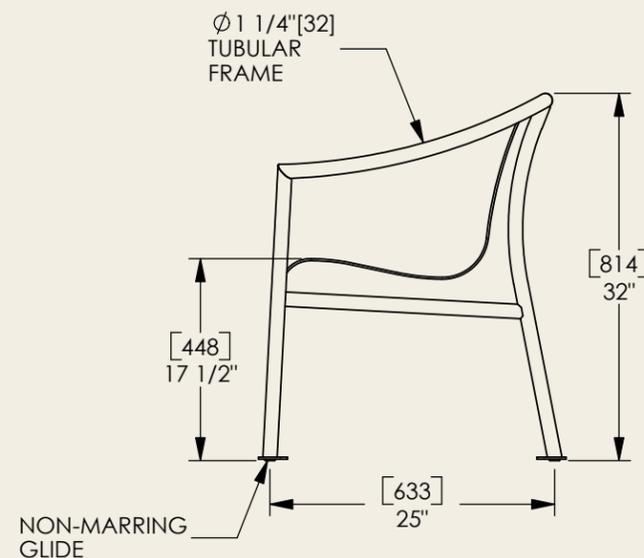
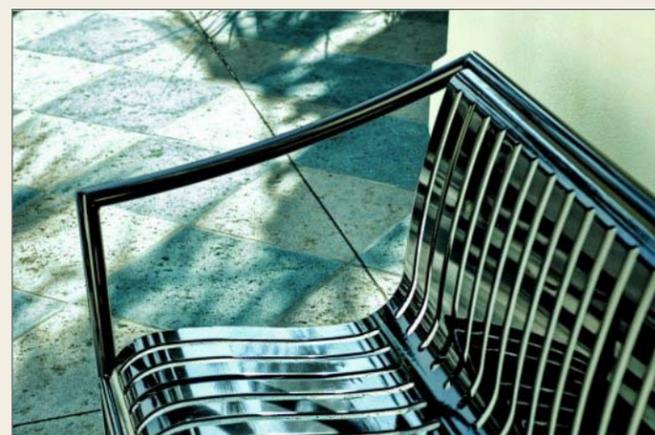
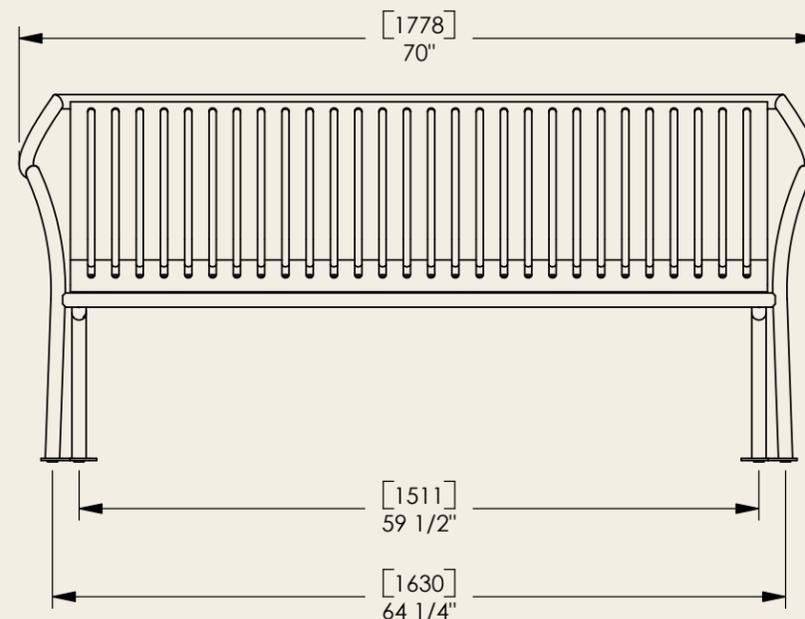
All metal is finished with Landscape Forms' proprietary Pangard II® polyester powdercoat, a hard, yet flexible finish that resists rusting, chipping, peeling and fading. It contains no heavy metals, is HAPS-free and has extremely low VOCs.

Benches are 100% recyclable.

Manufactured in Kalamazoo, MI, U.S.A.

\*For color specifications, refer to page DM110.

\*\*Product specified is a recommendation and may be substituted for similar.



**PLANTING POTS**

Planting pots may come in a variety of colors and sizes to accommodate space requirements and to give business owners multiple options. The styles below are suggested to keep in tune with the overall character of the study area. Water catchment discs or a drainage hole over non-paved surfaces should be provided with each pot.

Manufacturer #1: QuickCrete

Style: Baja  
16-72 diameter  
12-36 height

Style: Carlsbad  
24-66 dia.  
22-60 height

Style: Classic  
16-72 dia  
16-48 height

Style: Tucson  
24-72 dia  
18-42 height

Manufacturer #2: Earthstone

Style: Chino  
Size: JUMBO  
Width: 46 Height: 40  
Base: 26

Manufacturer #3: Stonewear

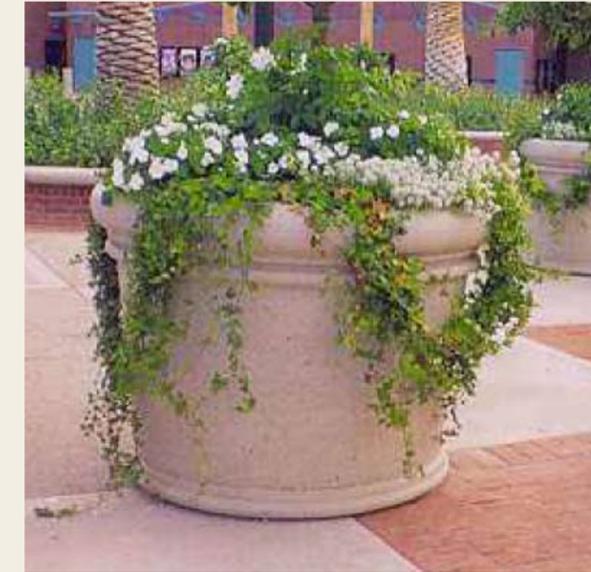
Style: Tuscan series  
24-60 dia  
18-42 height

\*For color specifications, refer to page DM110.

\*\*Product specified is a recommendation and may be substituted for similar.



**BAJA**



**CLASSIC**



**TUCSON**



**CARLSBAD**



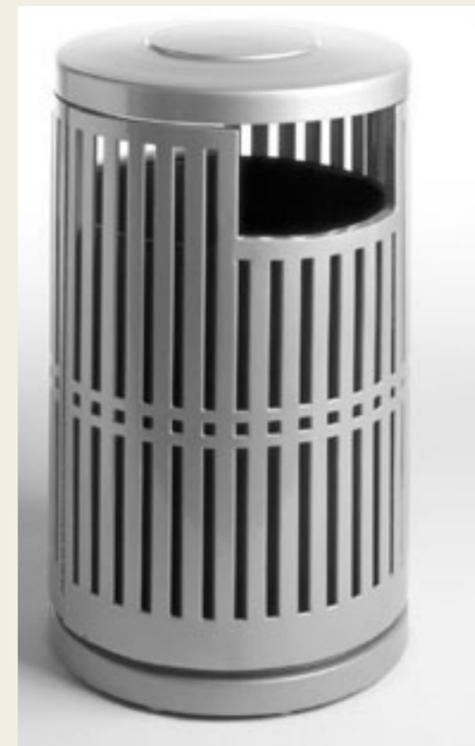
**CHINO**



**TUSCAN**



TRASH RECEPTACLE



## TRASH RECEPTACLE

Below is the suggested style for the trash receptacles. Substitutions are permitted if similar.

Manufacturer: LandscapeForms

Style: Chase Park

40 gallon top-opening style

36 gallon side-opening style

Top opening 24" dia x 39"h

Side opening 24" dia. X 40"h

Both styles include black, polyethylene liner

Features hinged door that swings open for emptying; optional keyed lock for door

Optional sand pan, attached with cable, offered for side opening style

Optional logo band may be specified for both styles

Constructed of cast aluminum sides and door; spun aluminum top; cast iron base.

May be left freestanding or surface mounted.

All metal is finished with Landscape Forms' proprietary Pangard II® polyester powdercoat, a hard, yet flexible finish that resists rusting, chipping, peeling and fading. It contains no heavy metals, is HAPS-free and has extremely low VOCs

Chase Park Litter Receptacles have a recycled material content of 61% or greater, of which 37% or greater is post consumer and 24% or greater is post industrial. Chase Park receptacles are 100% recyclable.

\*For color specifications, refer to page DM110.

\*\*Product specified is a recommendation and may be substituted for similar.

**BICYCLE RACKS**

Bicycle racks should be provided near offices and residences to encourage bike ridership. The design is kept simple to fit within tight areas and out of pedestrian thoroughways. Similar styles may be substituted.

Manufacturer: DW Windsor  
Style: Arc

42mm diameter stainless steel (grade 304 or 316) or galvanized steel

Supplied with roots as standard or flange plates as an option. The galvanized steel version may be painted any standard RAL color.

Style: Cleo

48mm diameter stainless steel (grade 304 or 316) or galvanized steel

Two sizes of rack are available: 400mm and 700mm radius  
The galvanized steel version may be painted any standard RAL color



**ARC**

**BICYCLE RACKS**



**CLEO**

**BOLLARDS**

Bollards are used in situations that are compact yet necessary to separate pedestrian traffic from auto. Style was chosen because it could easily be used as a place to sit if need be. Similar styles may be substituted.

Manufacturer: Stonewear  
Style: Bollard  
14-18 dia., 30 height

\*For color specifications, refer to page DM110.

\*\*Product specified is a recommendation and may be substituted for similar.

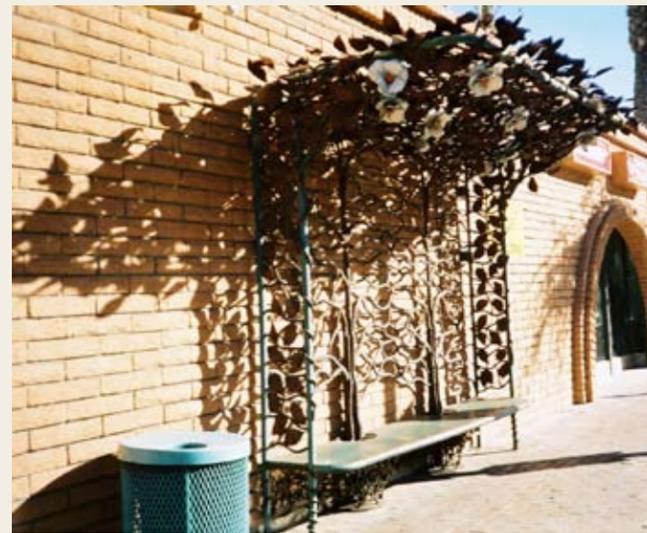


**BOLLARD**

PUBLIC ART

Throughout the site area there will be opportunities for public art which can include murals, sculptures, trolley/bus shelters, and furniture. Public art should include similar textures, colors, and/or theming of other furnishings within the area in order to create cohesiveness.

Public art adds to the cultural richness and heritage of the urban area especially if it can incorporate local artists and craftsmen. Every opportunity should be explored to allow for public art. It is highly encouraged and will add to the place and feel of the district. Public art should especially be present in urban plazas and main public open space.





Section Eleven

# Branding and Signage



**BRANDING AND SIGNAGE**

Signage serves three purposes:

- 1) To help orient visitors and users of the Downtown area
- 2) To enhance the identity of the Congress District
- 3) To advertise restaurant and business logos at the pedestrian level in an artful manner.

In order to orient visitors, kiosks with maps should be provided. Prominent wayfinding signs should highlight the key features and prominent buildings in the area, such as the streetcar routes, Hotel Congress, Rialto Theatre, and future transit hubs or public plazas.

The Congress District identity may also be enhanced through the use of signage. A simple emblem or color combination that is used on all public wayfinding signs can reinforce the distinction of the Congress District.

Lastly, it is important for restaurants and businesses to advertise with artful signs that can be viewed by pedestrians walking along the sidewalk. Advertisement should not only be oriented toward vehicular distances.



Signage can be used for branding an entrance to prominent buildings.



Pedestrian oriented signs may hang from walkways.



Example of alley or gateway signage.



Signs should help direct the pedestrian.



Emblems on signage may be used to brand an identity



Kiosks with maps of site area help orient visitors.

THIS PAGE LEFT INTENTIONALLY BLANK.

III. CONGRESS DISTRICT DESIGN MANUAL  
Section 11 - Branding and Signage



Section 12

# Planting Design

PLANTING

Street trees and sidewalk plantings have a significant part in creating a pedestrian friendly and a sustainable urban environment.

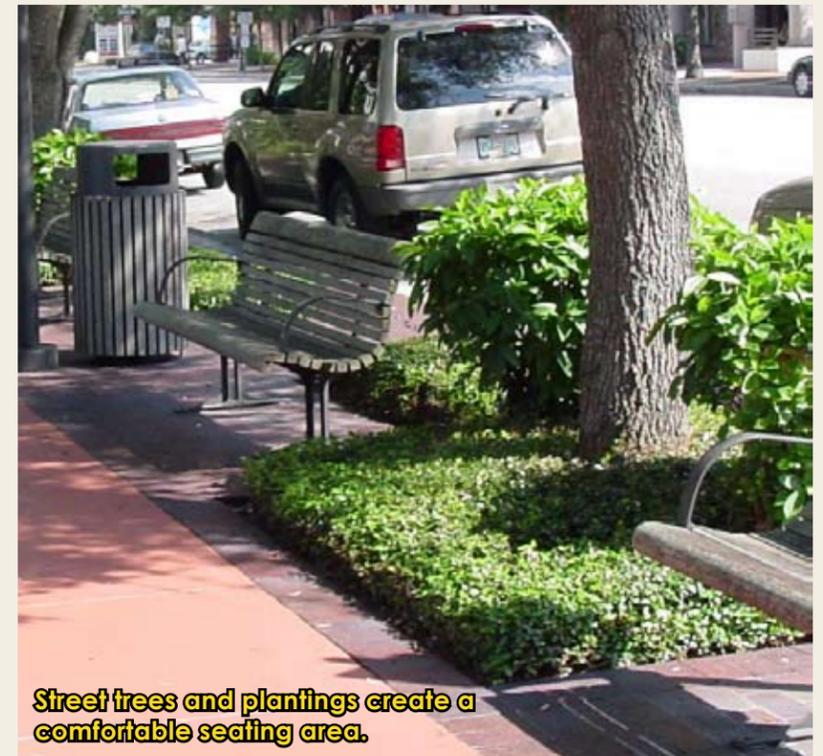
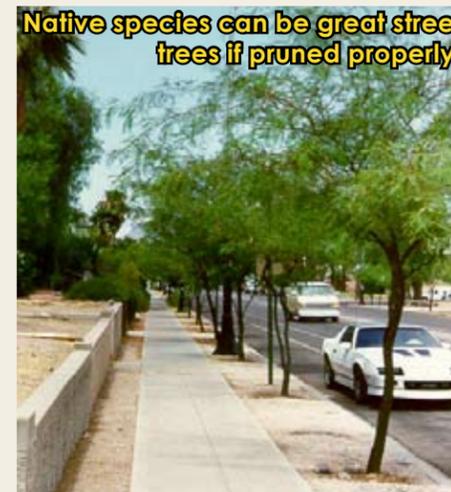
The street trees should be placed 25 feet on center to create a rhythm along the streetscape, while providing ample shade and allowing adequate space for the development of mature trees. However, depending on the adjacent land use, there will be cases that might disrupt the growth of mature tree branches. In these cases it is best to not plant a tree.

The street trees should either be placed in tree trenches with a protective tree grate or placed within large planters. Particular planting details such as tree trenches and large planters will allow ample room for a tree's roots creating healthy, long-lasting trees.

Street trees should be evaluated for their maintenance and pruning requirements - less is preferred. However, it is important to prune young trees to ensure proper growth and shape. Mature trees should be maintained to lessen susceptibility to getting blown over and disease. Although upright trees are preferred, many natives are multi-trunk and if used should be trained to not interfere with pedestrian movement. Also, it is important to select a street tree that has a naturally high crown or it must be pruned to provide clearance for vehicles and pedestrians.

Planters and planting pots will include flowering shrubs and accent groundcovers. These plantings will provide color and vibrancy to the street character. All plants should be low water use or drought tolerant, preferably native species.

Permeable pavers within the planting trenches will allow water percolation to the tree roots. Some areas will be designated as vegetated storm water planters that will collect water runoff from the sidewalk and street.



STREET TREE ZONING PLAN

On this page is one concept of the street tree zones along the streetcar route within the pilot area. The species should be native to the Sonoran Desert, desert hardy, require minimal maintenance, and fit into the overall character of the multi-modal area. Characteristics should include ample shade and an elevated crown base.

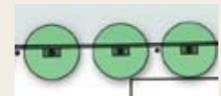
The site area should be separated into various zones. Each zone should utilize a preferred street tree that complements the street character and conditions.



STREET TREE TYPE 'A' -  
 Southern Live Oak  
*Quercus virginiana*  
 (To match existing trees along Congress Street)



STREET TREE TYPE 'B' -  
 Large Deciduous  
 Shade Tree



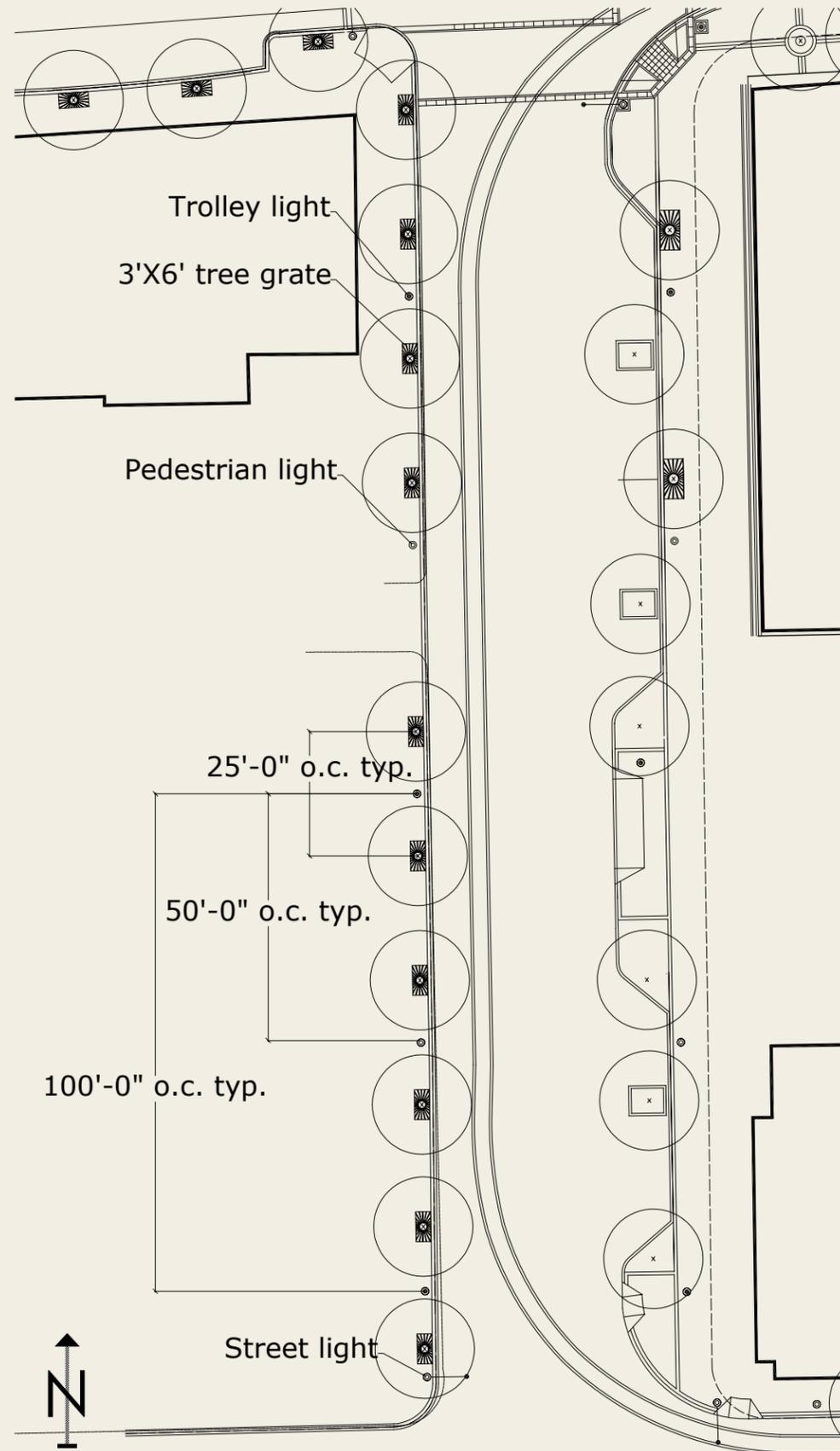
STREET TREE TYPE 'C' -  
 Desert Flowering  
 Shade Tree

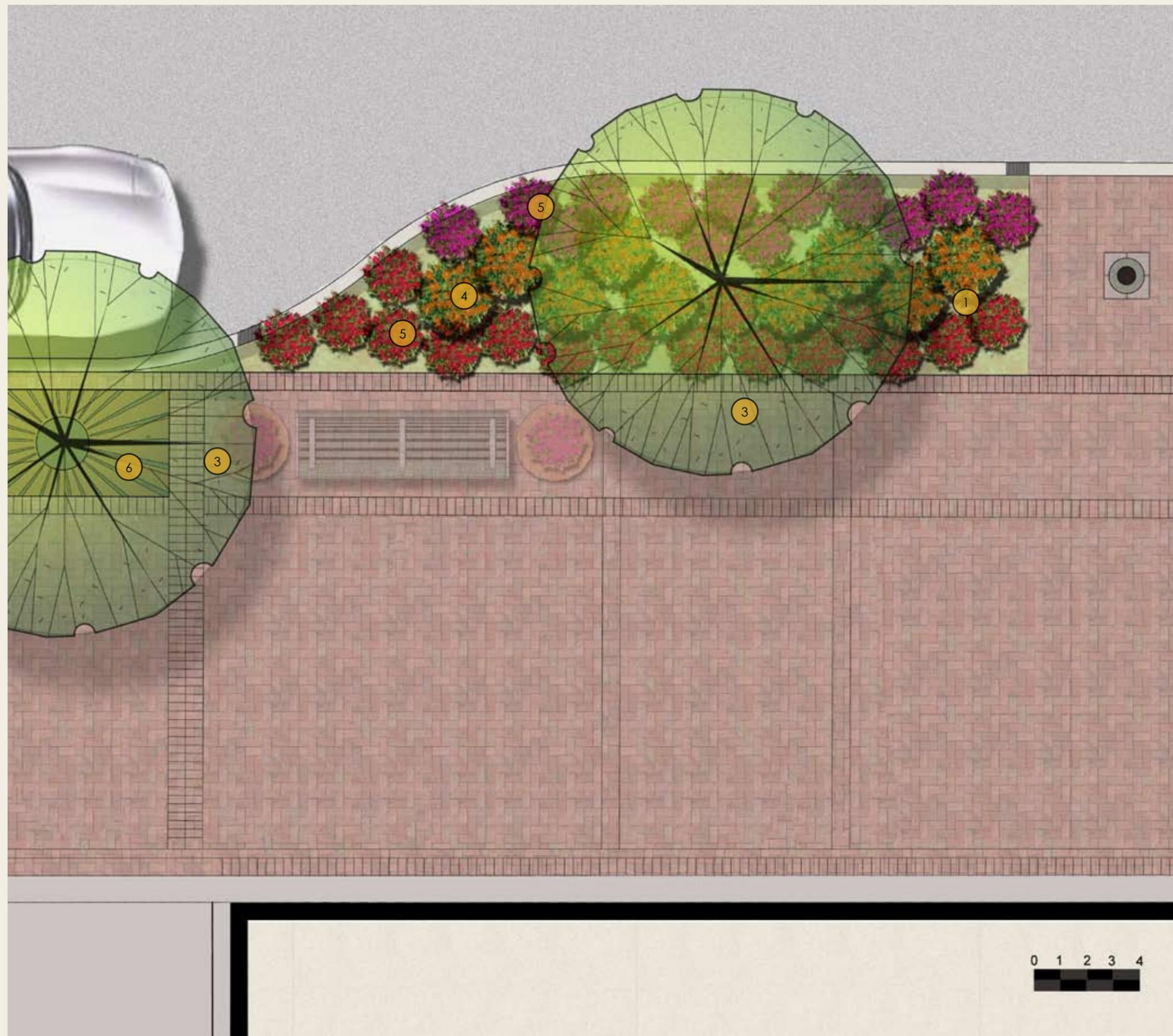


**STREET TREE LOCATION PLAN**

Street trees will be located 25 feet on center. Every 50 feet, halfway between the street trees, is the location of a pedestrian light. A street light with an attached trolley pole will be every other street light pole or every 100 feet. This pattern was chosen to create a rhythm within the streetscape. Of course, some cases may arise that will require specific design alterations dependent on adjacent land use.

Most street trees will be located in a 3'X6' tree grate or a 4'X6' tree grate, if trees are located within a tree trench refer to detail on page DM133. Although tree trenches are highly recommended, trees can be placed within a tree well, and in that case the tree grate and well should be a minimum of 5'X5'. In some special cases a round tree grate will be used. In addition some trees will be placed in planters located within the parking areas or sidewalks but will remain 25 feet on center.





### PLANTERS AT MID-BLOCK CROSSING

The curb extension area near a mid-block crossing provides a great opportunity to use as a planting area. It is important to have low lying shrubs and groundcover to not impede driver visibility of crossing pedestrians. The planters at the mid-block crossings may also be opportunities for water retention (refer to page DM134).

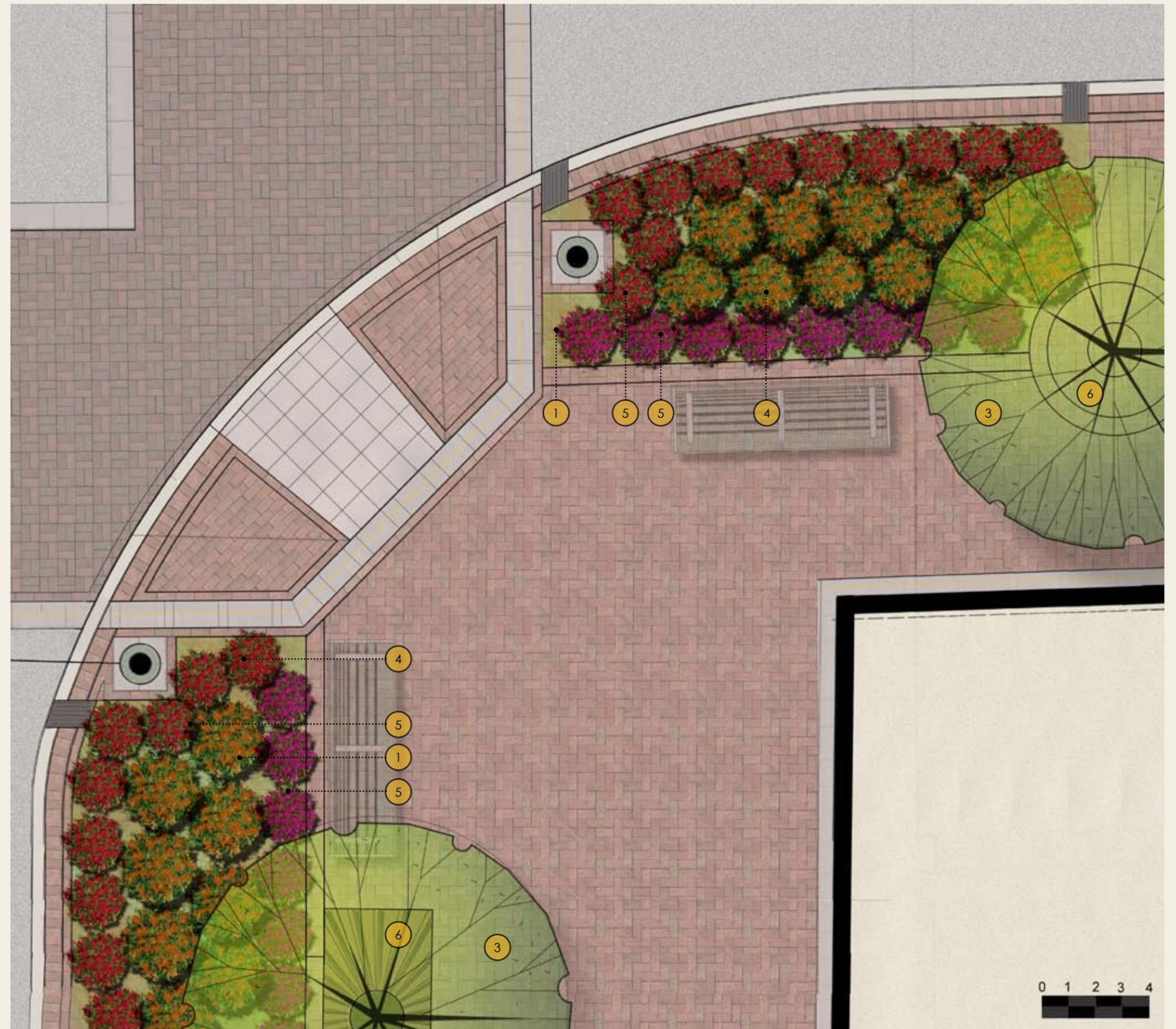
1. PLANTING AREA (SLIGHTLY BELOW GRADE)
2. NOT USED
3. STREET TREE
4. 3'-4' SHRUB
5. GROUNDCOVER
6. TREE GRATE - RECTANGLE
7. NOT USED
8. NOT USED
9. INLET/OUTLET (USED IF DESIGNED AS STORM WATER RETENTION, SEE PAGE DM134)

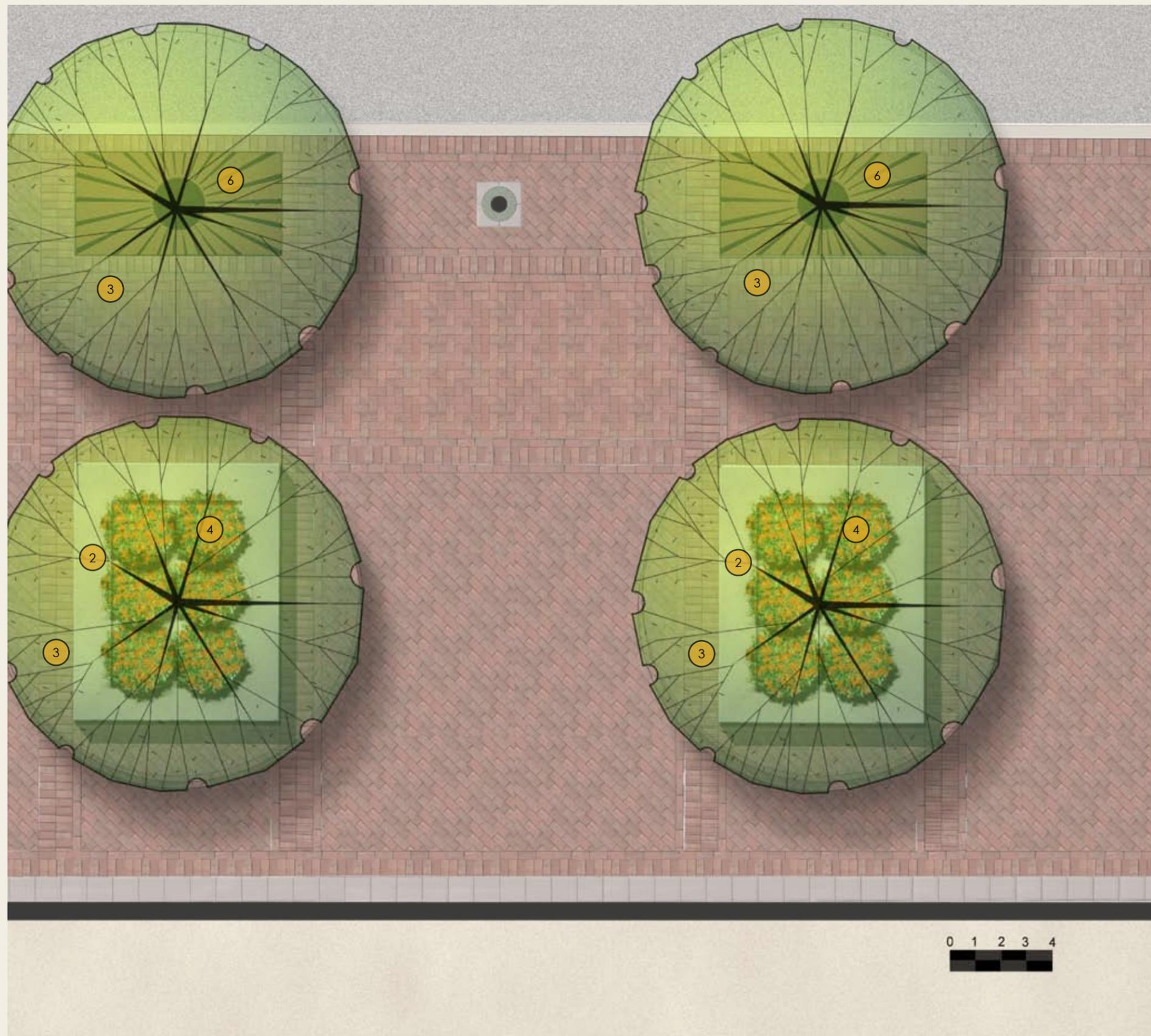
### PLANTERS AT CURB EXTENSION CONDITION

The areas near a crossing also provide a great opportunity for planting areas. It will provide a place for site furnishings near the major crossings and at the streetcar stops. It is important to not obstruct site visibility.

1. PLANTING AREA (SLIGHTLY BELOW GRADE)
2. NOT USED
3. STREET TREE
4. 3'-4' SHRUB
5. GROWDCOVER
6. TREE GRATE - RECTANGLE
7. TREE GRATE - ROUND
8. NOT USED
9. INLET/OUTLET (USED IF DESIGNED AS STORM WATER RETENTION, SEE PAGE DM134)

\* Round tree grates may be used in place of rectangle tree grates at special cases, i.e. streetcar stop.





## ESPLANADE PLANTING

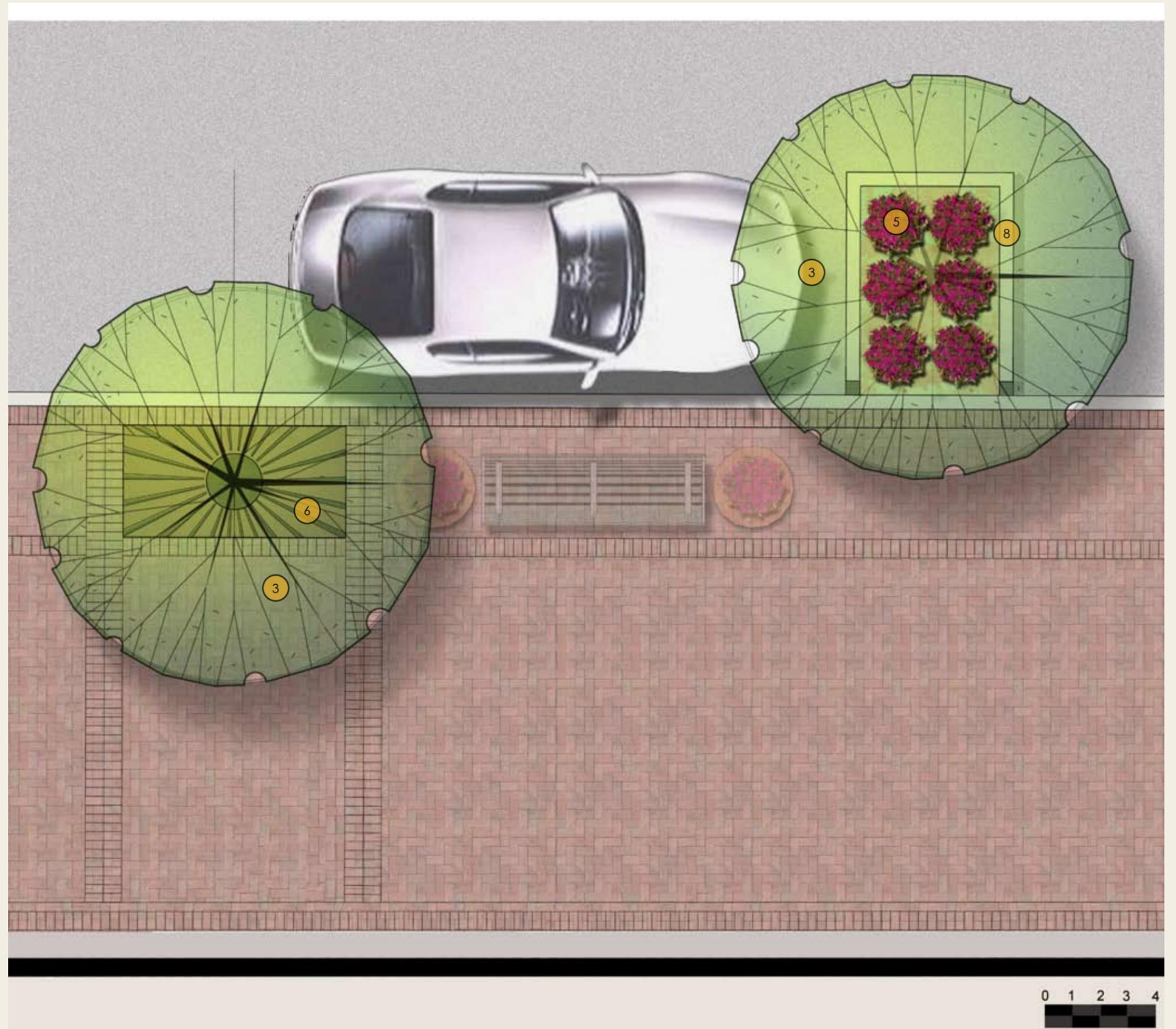
Due to the width of the esplanade condition, it is possible to have 2 rows of street trees. Along the street the trees may either be placed in a tree grate or a storm water retention planting area (refer to page DM134). Within the sidewalk area, it is encouraged to plant trees within a raised planter that can also function as seating.

1. NOT USED
2. 8'x10'x3' CONCRETE PLANTER
3. STREET TREE
4. 3'-4' SHRUB
5. GROUNDCOVER
6. TREE GRATE - RECTANGLE
7. NOT USED
8. NOT USED
9. INLET/OUTLET (USED IF DESIGNED AS STORM WATER RETENTION, SEE PAGE DM134)

### PLANTING AT SIDEWALK WITH PARALLEL PARKING

Alternating between parallel parking spaces, there should be a curbed planter to provide shade and to break-up consecutive parking spaces. The planter may also function as a storm retention area (see page DM134).

1. NOT USED
2. NOT USED
3. STREET TREE
4. 3'-4' SHRUB
5. GROUNDCOVER
6. TREE GRATE - RECTANGLE
7. NOT USED
8. 6" CURBED PLANTING AREA
9. INLET/OUTLET (USED IF DESIGNED AS STORM WATER RETENTION, SEE PAGE DM134)



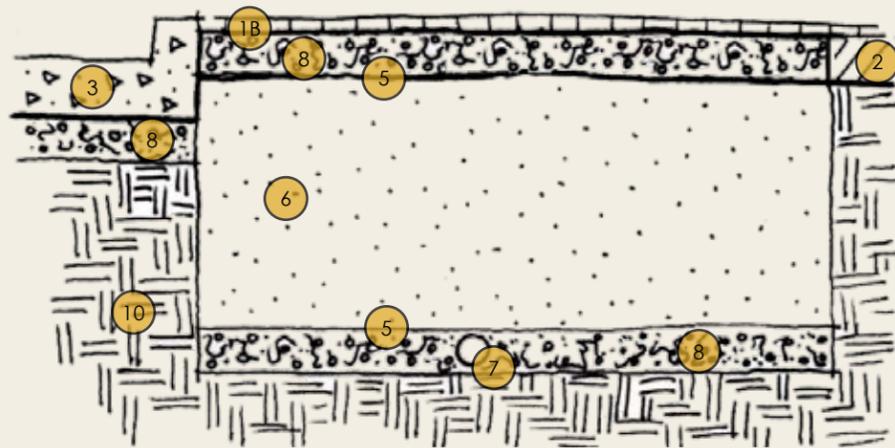
PLANTING DETAILS

The tree trench and structural soil is a special feature that will increase the health and vitality of street trees. Instead of using typical tree wells, the tree trench will allow more room for tree roots to spread. The structural soil will prevent soil compaction and remain sturdy enough for paving material.

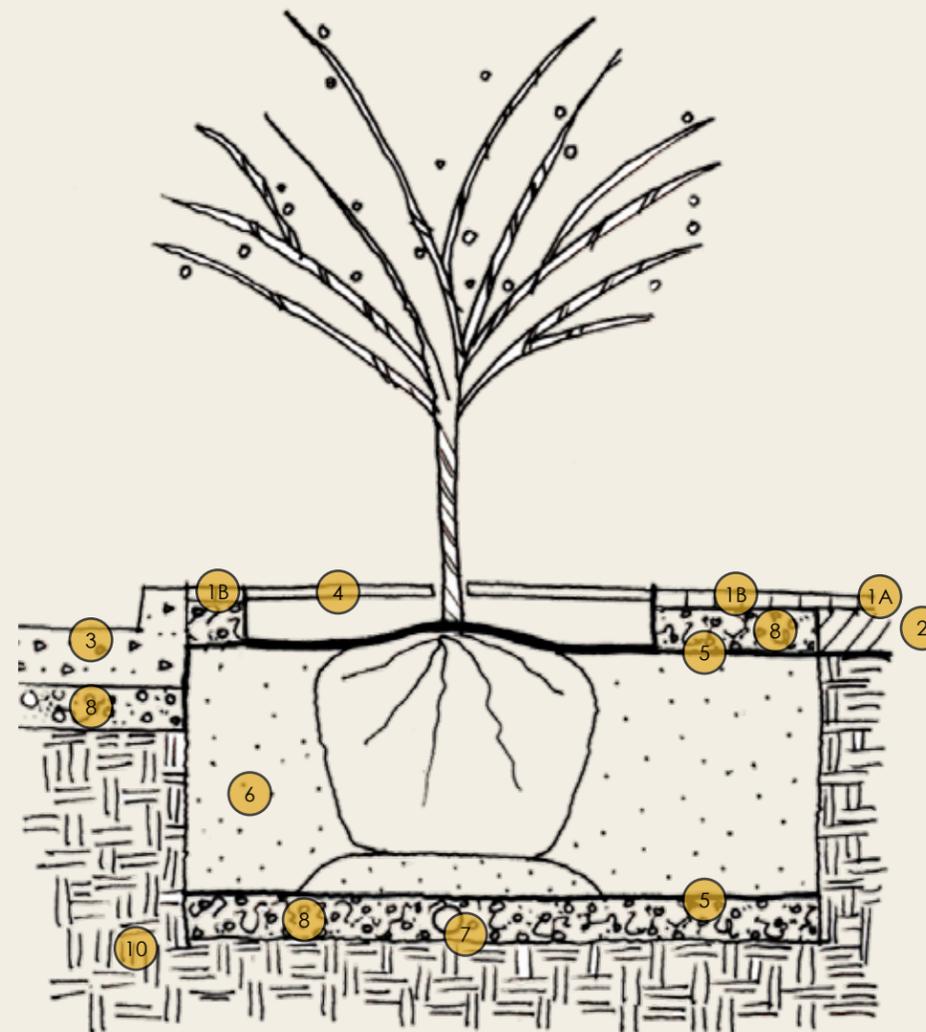
Permeable pavers will be used to allow water to percolate throughout the trench area also promoting root spread.

These details will encourage healthier tree growth, lower watering needs, and will decrease weak-rooted street trees that can be susceptible to wind blow over.

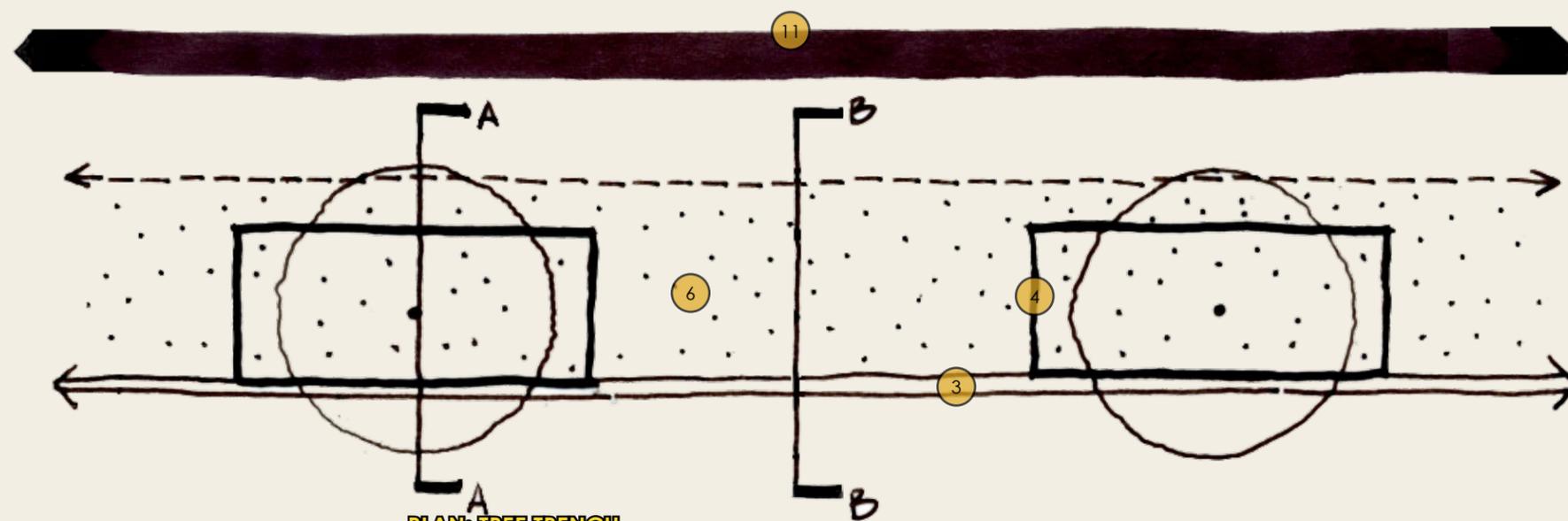
- 1A. BRICK PAVER
- 1B. PERMEABLE PAVER
- 2. CONCRETE BASE
- 3. CURB
- 4. TREE GRATE
- 5. GEOTEXTILE
- 6. STRUCTURAL SOIL (MIN. 36" DEEP)
- 7. MIN. 4" DIA. PERFORATED PIPE TO STORM DRAIN OR SUMP
- 8. GRAVEL
- 9. 5' STRUCTURE FREE ZONE
- 10. UNDISTURBED COMPACTED SUBSOIL
- 11. FACE OF BUILDING



SECTION B: STRUCTURAL SOIL AND TREE TRENCH



SECTION A: STRUCTURAL SOIL AND TREE TRENCH



PLAN: TREE TRENCH

### TREE GRATES

Tree grates will be used for the protection of street trees and also as a visual element that will enhance the paving patterns and colors.

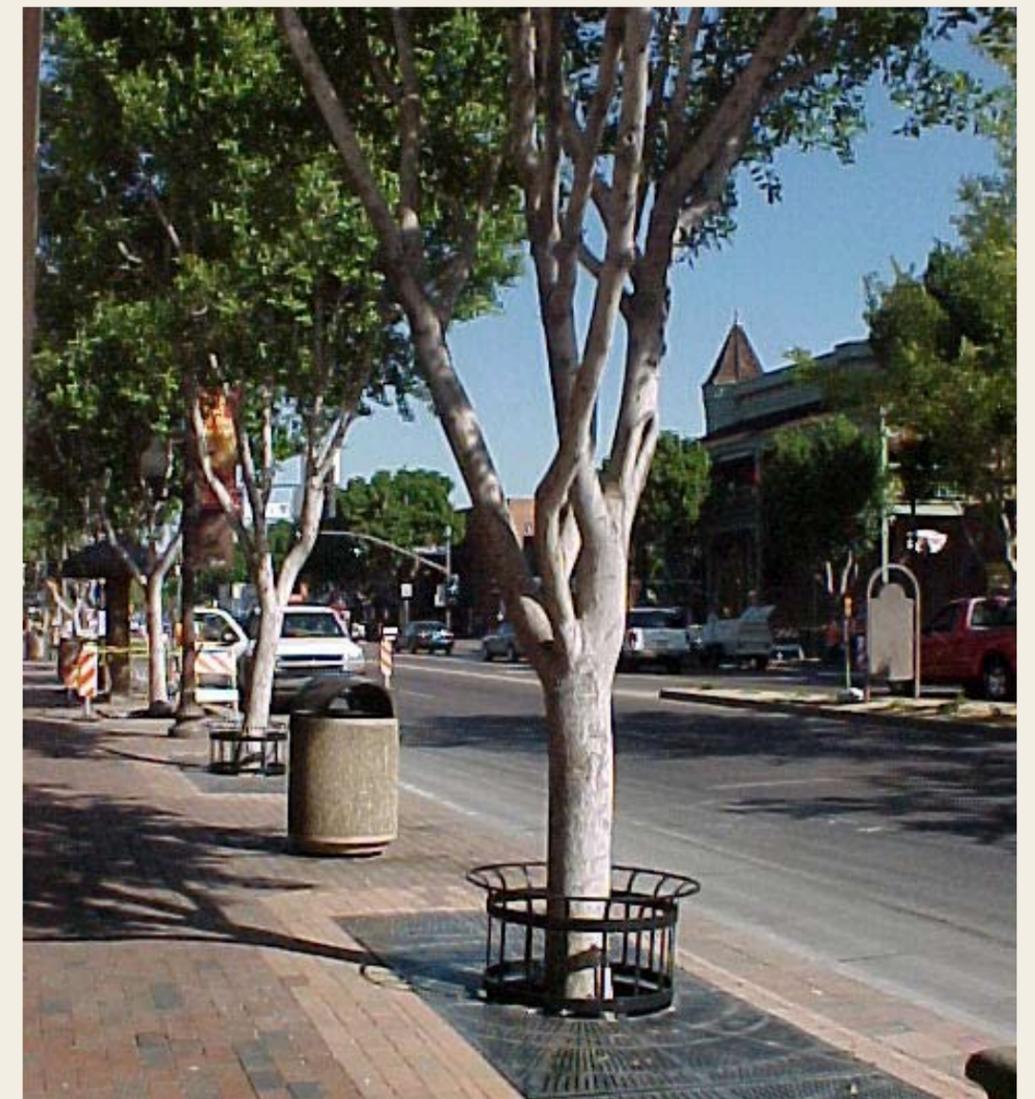
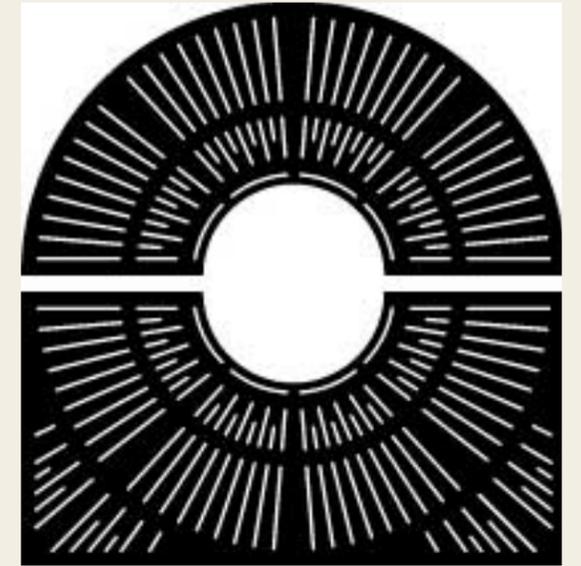
Manufacturer: Ironsmith

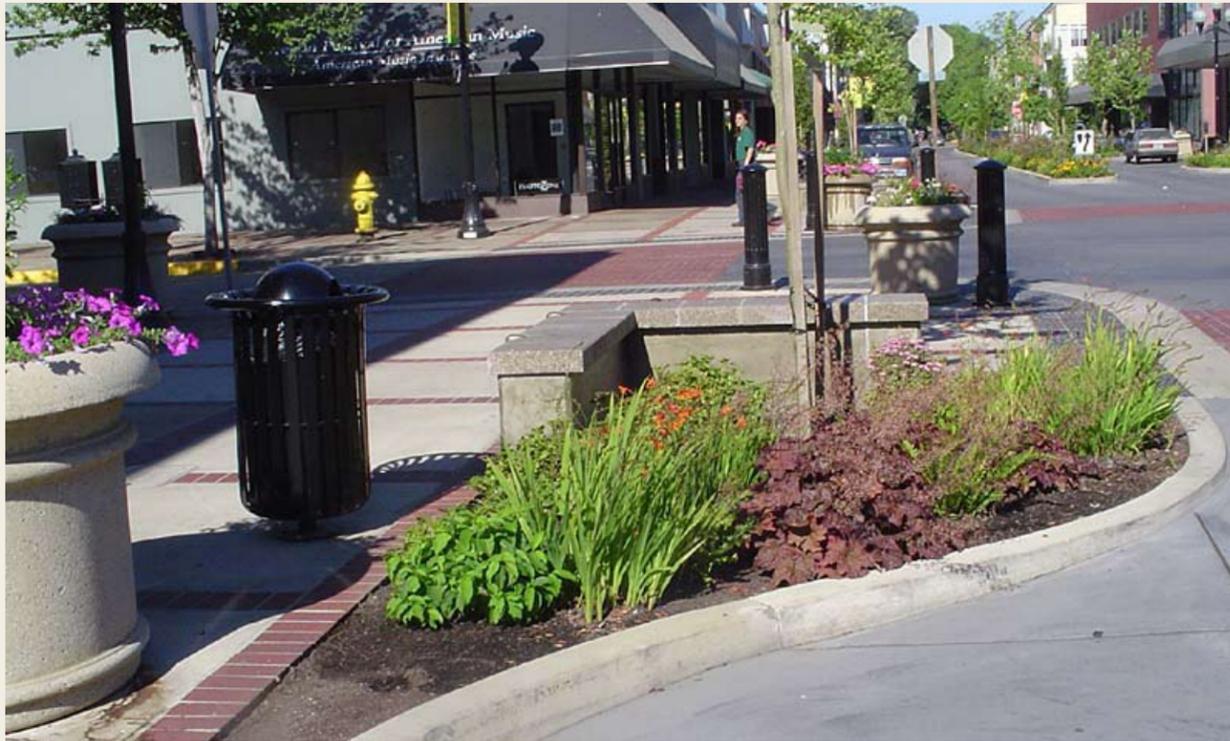
Style: Starburst

Color: Rust Patina

Size\*: rectangle - 3'X6' and 4'X8'  
round - 3' diameter

The narrow sidewalk street condition should require the 3'x6' rectangle tree grate, whereas the wide sidewalk or esplanade condition may use the 4'X6' rectangle tree grate. The round tree grate should only be used sparingly in special conditions i.e. streetcar stop area per conceptual design.





## VEGETATED STORMWATER SWALES AND PLANTERS

As an alternative to typical stormwater management, some planting areas will also function as a stormwater retention and cleansing treatment for runoff from the street and sidewalks. This element can be used in select areas that allow for at-grade planting areas.

The vegetated swales and planters divert the runoff through a series of planting areas to allow water to percolate the soil and cleanse some of the impurities before emptying into the City's stormwater sewer system. The simple design of inlets and outlets in the typical curb and gutter allow this technique to be easily incorporated into existing streets.

The vegetated stormwater swales and planters may be used in any of the slightly depressed planting areas as defined in the previous pages. Design consideration must take into account that there is an adequate downstream flow.





Section Thirteen  
Sustainability

---

## INCORPORATE SUSTAINABILITY ELEMENTS

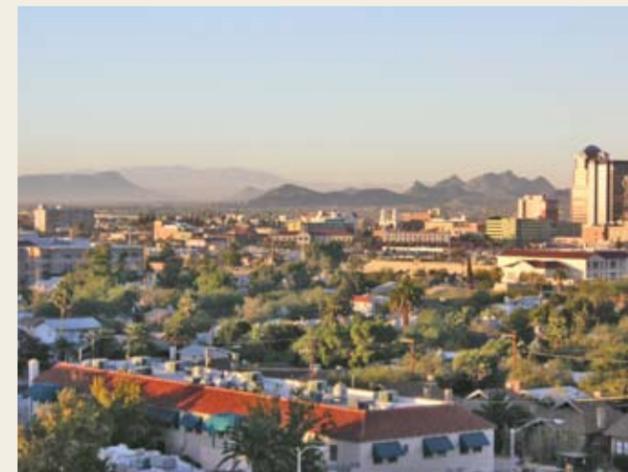
The built environment uses a considerable amount of the earth's resources. As part of our responsibility, it is highly encouraged that the Congress District strive to lessen its impact in all manners of development. Outlined below are the Principles of Sustainability for the Congress District. Throughout the development effort, weave principles of sustainable design into all aspects of Congress District effort.

1. Provide an integration of land uses.
2. Encourage multi-modal transportation with connectivity and accessibility.
3. Promote water, energy, and resource efficiency; plan for efficient energy use in homes and communities; recycle energy on site (both human and fuel).
4. Provide public open space, a pedestrian oriented environment, and to use biological resources over fossil fuel resources if possible. Use a diversity of beneficial species for a productive, interactive system.

The Principles of Sustainability should be an integral part of the planning, designing, and building of the Congress District. Some of the concepts, in order to achieve the principles, have been explored in the Streetscape and Architecture sections of the Congress District Design Manual. There are some that have not been presented but could be explored by the City, future designers, builders, and developers.



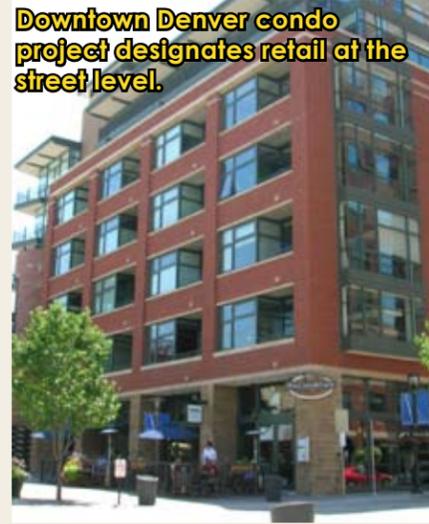
**Downtown Tucson is a laboratory for sustainable development. Due to its situation within the arid Sonoran Desert, Tucson should strive to conserve water and energy and lessen its urban heat island effect while celebrating its historic past and the natural setting.**



**An example of an artful loft resident project.**



**Downtown Denver condo project designates retail at the street level.**



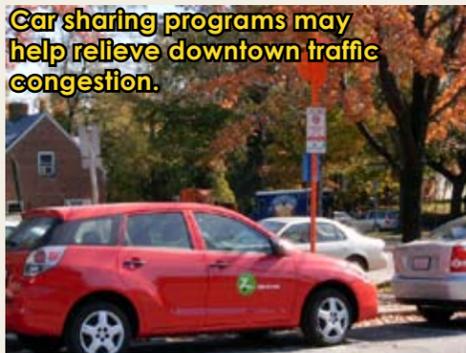
**The Orchid House is a mixed-use loft style building in downtown Tempe.**



*Santa Ana Boulevard North*

**Santiago Street Lofts in Santa Ana, California is an award-winning Live/Work Unit design.**

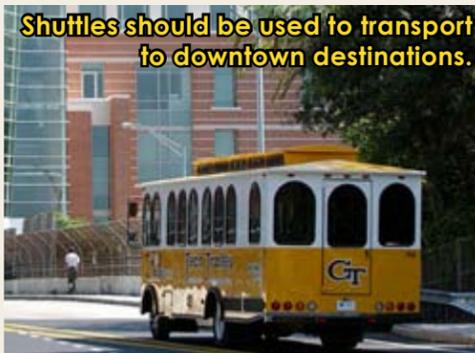
**Car sharing programs may help relieve downtown traffic congestion.**



**Roads should allow adequate room for bicycle lanes.**



**Shuttles should be used to transport to downtown destinations.**



**Bus shelters should provide adequate shade and protection from rain and wind.**



**Transit hub may be a signature building as the Union Station in downtown Denver.**



**Bicycle racks on buses allow riders to switch from one mode of transportation to the other.**

INCORPORATE SUSTAINABILITY ELEMENTS

**Provide an integration of land uses.**

The Downtown area is more sustainable when it is comprised of a mix of uses - office, retail, restaurants, and entertainment with a residential community. Downtown businesses will thrive with a residential community that will use its resources at all times; residences will be able to live within walking distance.

- live-work units
- high density condominiums
- apartment lofts
- residences above retail
- mixed-use buildings

**Encourage multi-modal transportation with connectivity and accessibility.**

The Downtown area should encourage multi-modal transportation in order to relieve traffic congestion and cleaner air. The connectivity and accessibility of multi-modal traffic options will be the key factor in people's choice or need to use alternative transportation.

- pedestrian oriented environment
- walkability
- designated bike lanes
- bicycle racks
- accessibility to public transit - streetcar or bus
- bus shelters
- transportation hubs
- free local area shuttles
- car sharing

**PRINCIPLES OF SUSTAINABILITY**

**Promote water, energy, and resource efficiency.**

It is extremely important to consider our impact on the earth's resources. The Congress District can be a great opportunity to preserve and conserve resources. The site itself is an infill project that can take advantage of existing infrastructure and buildings. Historic nature of the Downtown area calls for renovation of the historic buildings. The desert setting encourages water conservation. Lastly, energy efficiency is always an opportunity for all.

- site orientation
- building reuse and renovation
- material selection
- alternative fuel and energy sources
- innovative parking strategies
- permeable paving systems
- xeric, native landscaping
- water harvesting
- vegetated storm water planters

**Provide open space and greening.**

Open space and greening will help create a more comfortable environment by providing shade and cooler microclimate environments, as well as minimizing the urban canyon effect of a downtown setting. The greening of the grey infrastructure of a downtown area can reduce its urban heat island effect. Place vegetation to block windy conditions and to also take advantage of solar orientation to either cool or warm a location. Native vegetation to the Sonoran Desert should be used in the urban canyon to soften the environment.

- urban parks
- green roofs
- vegetated walls
- shade trees
- courtyards



**Pennington Street Garage in downtown Tucson has solar panels on rooftop.**



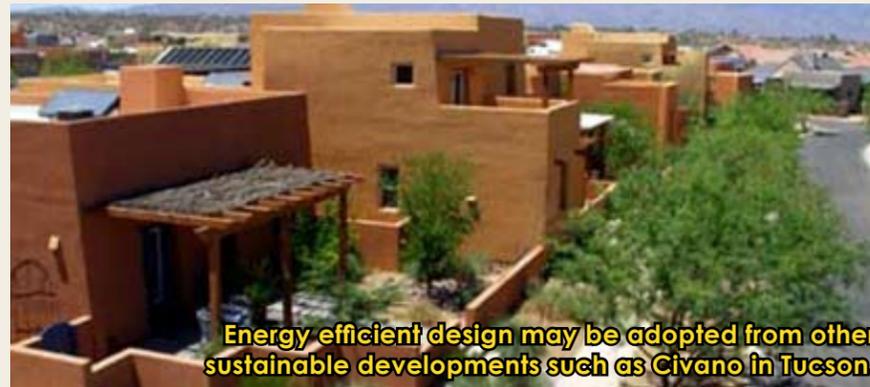
**Inn of Anasazi in Santa Fe uses energy and resource saving technology.**



**Historic building reuse and renovation in downtown Tucson.**



**Historic building reuse and renovation in downtown Denver.**



**Energy efficient design may be adopted from other sustainable developments such as Civano in Tucson.**



**Water harvesting demonstration garden.**



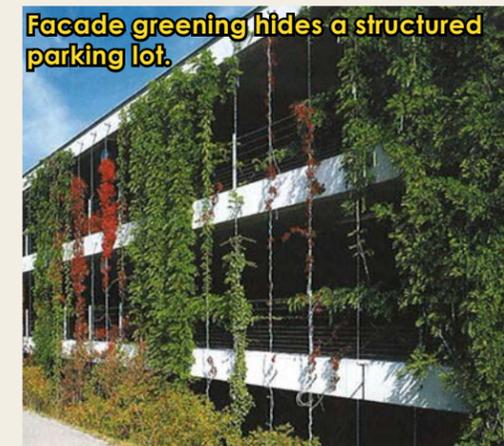
**Large planting areas mask parking areas and can also function as bioretention areas.**



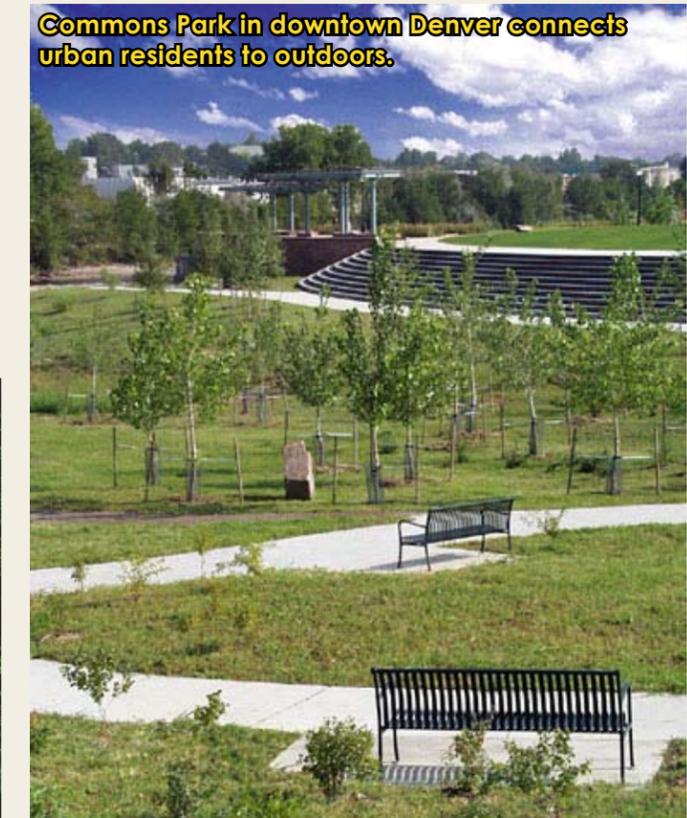
**Vine covered trellis creates a cooler microclimate through evapotranspiration.**



**Native vegetation is used at a community park at DC Ranch, Scottsdale, AZ.**



**Facade greening hides a structured parking lot.**



**Commons Park in downtown Denver connects urban residents to outdoors.**



Street markets allow local vendors and farmers to bring fresh produce to urban dwellers.



Hotel Congress is a signature building that marks the district's historical character.



Urban plazas and parks provide space for festivals.



Music enlivens a pedestrian street.



Luminarias del Pueblo is an event in Tucson that has encouraged local artists to display sculpture.

## PRINCIPLES OF SUSTAINABILITY

### Create an urban village community.

The most sustainable community is one that will last generations - one where the community will take pride in where they live, work, and play. The short term profit of investment in this area should also profit the long-term investment in creating a community. All design should be conducive to the comfort and interaction of people. Design should provide opportunities but not impede the evolving character of the District. All of the preceding principles will help achieve an environmentally responsible urban village; but the interaction and feel of the community will make it a sustaining urban village. Opportunities to create community include:

- celebration of historical character
- local artists and craftsmen art displays
- festivals and markets
- street entertainment and performances

### Implementation

The implementation of a sustainable strategy will either fall in the domain of the public development plans or the private sector. Each development project within the site area will need to assess how the sustainable strategies will be incorporated and funded. Some will be more effective as an overall public initiative such as a transit system or sidewalk improvements. Others will be more advantageous and/or necessary to be carried out by private developments such as water harvesting on-site or car-sharing programs.

Tucson has a wealth of resource people who can assist with sustainable design, and work for, or with, nonprofits. Include public, private, nonprofit, and academic sectors as resources for this effort. Another good resource for implementation of green building standards is the use of the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) program. Public and private developers may use the LEED manuals as reference for green building standards. The City may also consider incorporating a program where all new or renovated buildings will be LEED certified.



Section Fourteen

## Policy Recommendations

---

## POLICY RECOMMENDATIONS

### Major Policy Recommendations for Regulatory Implementation

- I. Develop a New Downtown Planned Area Development (PAD) District Applicable to the Congress Street District Study Area (Study Area).

The Tucson Land Use Code (LUC) provides an important and flexible mechanism through the Planned Area Development (PAD) District. This mechanism allows modification of both uses and development standards from the base zoning designations and existing overlays. Section 2.6.3 of the LUC indicates that the use of the PAD District is contemplated in the Study Area as a waiver of the 40 acre minimum size for use of a PAD is specifically provided for in the Rio Nuevo and Downtown (RND) Zone (see Section 2.6.3.5.B. of the LUC). There appears to be a slight discrepancy in the Tucson regulations regarding the minimum size allowable for PAD use as the Development Standards, Revised January 6, 2000, Development Standard No. 1-06.3.3 states a PAD in a Downtown Redevelopment District, such as the Study Area must be a minimum of a full city block. This limitation is not contained in LUC Section 2.6.3.5.B which states:

The site's land area is a minimum of forty (40) acres, or if located in the Downtown Redevelopment District as defined in Section 6.2.4 or in the Rio Nuevo and Downtown (RND) Zone as defined in Section 6.2.18, there is no minimum site area. The Mayor and Council may authorize the initiation of a PAD District of less than the size required by this Section if the proposed PAD District is consistent with the intent of the PAD Zone. (Ord. No. 9780, § 2, 10/14/02)

This discrepancy would have to be assessed by City officials as to which limitation would apply to use of the PAD mechanism.

The PAD mechanism would enable the project to establish a unique mixture of uses and development standards through the PAD ordinance approved for the project. Sections 2.6.3.6.C.14. and 16. of the LUC provide that the PAD shall contain "specifications as to how and to what extent the PAD District is to supplement or supersede adopted City zoning regulations" and "development design guidelines." This language of the regulation appears to allow for a superseding of existing zoning regulations with new regulations through use of the PAD mechanism. This PAD mechanism could then be used to accommodate useful facets of any existing overlay zones applicable to property in the Study Area by including them in the PAD while omitting less useful and practical measures currently affecting property in the Study Area under its existing base zoning and overlays.

In the minimum to guide the PAD, the City would need to establish, based on what it adopts from the Congress Street Master Plan and what it chooses to retain from various existing overlays applicable to the properties in question, some sort of conceptual design and land use priority plan or guide encouraging in various locations various uses, mixtures of uses, architectural, material, color, streetscapes, shade, pedestrian orientation, open space, plazas, and any other special district or building issues desired for the Study Area. The recommendations put forth in the Congress District Design Plan will serve as an important step in achieving a vision for the Study Area.

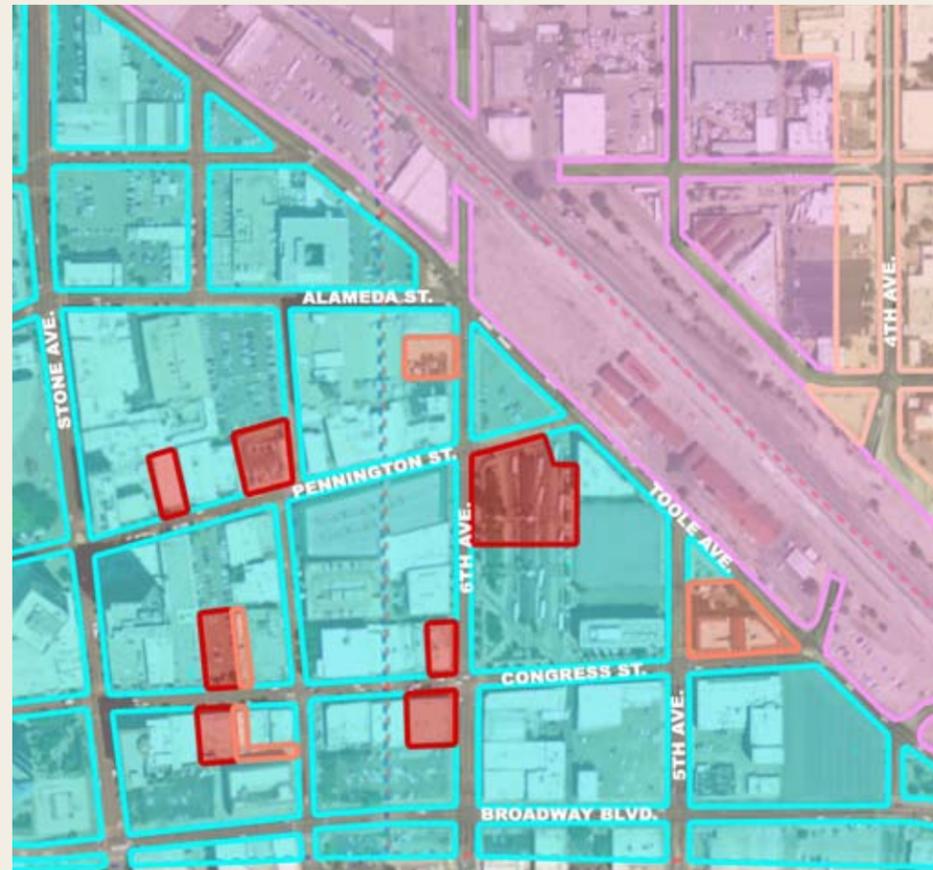
## STUDY AREA BOUNDARY MAP



Study Area Boundary



Influence Area Boundary



EXISTING ZONING

LEGEND

- **C1 Zoning**  
Local commercial - restrictive commercial zone, limited to retail sales with no outside display/storage. Office and residential development permitted. Restaurants permitted.
- **C2 Zoning**  
General commercial - retail commercial with wholesale, nightclubs, bars, amusement enterprises permitted. Full range of automotive activities, sales, repair, leasing, etc. Limited manufacturing permitted. Residential uses permitted.
- **C3 Zoning**  
Intensive Commercial - same description as C2 zoning.
- **OCR2 Zoning**  
High-rise mixed office, commercial, and residential uses located in major activity centers.
- **R3 Zoning**  
High Density Residential - Primarily for apartment houses; single-family development permitted.
- **I1 Zoning**  
Light Industrial - Commercial, industrial, and manufacturing uses; residential restricted to caretakers residence, except for Resident Artisans in the Downtown Warehouse District.

II. User of Downtown PAD District Would Require Entering Into Infill Incentive District Development Agreement.

In order to use the incentives provided for by the adopted infill incentive district (IID) mechanism that include, but are not limited to, development standard relief, expedition of process, or waiver/reduction of applicable fees, property owners would be required to enter into a development agreement which might include items such as, but not limited to, design guidelines and objectives, public infrastructure improvements, methods of financing such improvements, and vesting of development rights upon meeting of certain thresholds of development. The objective is to require the developer to articulate a series of development standards and use mix objectives that can be assessed and measured as development occurs on the property in the future. Such standards and objectives can be assessed for conformity with the Study Area objectives and set future standards and expectations for future PAD development proposals.

The statutory authority provided through the IID does not include an ability to modify the land uses provided for through a property's zoning status - this has to be accomplished through a PAD rezoning working in conjunction with provisions in any development agreement.

III. Provide Use of Base Zoning in Downtown PAD District as an Option Due to Uncertain Impact of Proposition 207.

Without going into great detail, Proposition 207 has injected significant uncertainty into a municipality's ability to modify existing zoning and other land use regulations without the consent of a property owner except in certain clear circumstances where it can be irrefutably argued there has been no diminution of value due to the new land use regulation.

Therefore, a baseline option incorporated in the PAD approval would allow a property owner an ability to proceed under the property's baseline zoning category. Since the Downtown PAD District would contain a series of design objectives in order to gain approval, these standards might be subject to diminution in value challenge if applied to a property without owner consent. If a property owner elects to waive any Proposition 207 diminution in value rights as part of the development agreement, then that owner could utilize any density bonuses, more creative use mixes, various modified development standards or other incentive structures as agreed to in the development agreement which meet the criteria adopted for the Congress Street District.

The existing underlying zoning classifications of OCR2 for the majority of land and the C-1 and C-2 classifications provide for a significant range of uses but these existing zoning categories in combination with the existing overlays already layered on the properties makes for a challenging array of existing regulations to conform with. It seems apparent that the existing regulatory environment affecting land use options in the Congress Street District, although well-intentioned, may not have been crafted and applied over time in a manner that allows for accomplishment of a unified design theory reflective of an approach such as the Congress Street District Design Plan. Such a unified approach may be more easily achieved by crafting the current design and use principles together in a new Downtown PAD and individual development agreements for the various projects focusing on the objectives of the current plan.



LAND USE PLAN

LEGEND

- Office
- Retail
- Public
- Parking
- Residential
- Industrial
- Vacant/Open Space



## IV. COMMENTARY ON CONGRESS DISTRICT DESIGN MANUAL

---

### Landscape Advisory Committee (LAC) Subcommittee reviewing Comments from January 4, 2008 Meeting DECEMBER 2007 CONGRESS STREET DESIGN MANUAL

The general consensus of the LAC subcommittee was that there are many good photographic examples from other areas of the state and country and the text has articulated many useful design concepts; yet, it also included many specific details such as tree spacing, street furniture (benches/trash containers), colors, materials, brick patterns, etc. to be considered design standards. Much of this information and many of the design concepts can and should be used in the development of a more comprehensive vision for not only the revitalization of Downtown, but to create the "Great Desert City" we all desire Tucson to become.

General concepts that can guide the City in its future Downtown development efforts, including Congress Street, are:

- 1) Tucson is designated both a "Cool Community" and Tree City USA , therefore, Tucson should consider how to enhance the qualities these designations infer – increased vegetation, trees, and use of colors and materials that reduce the heat island effect, especially in the urban areas.
- 2) All lighting must comply with the Dark Skies Ordinance while also achieving safety goals and a pedestrian scale ambiance for Downtown.
- 3) Tucson should embrace the various influences and eras as a basis for developing a city that reflects our past (preserving historic buildings, etc.) but not try to preserve everything just because it is old.
- 4) Various sections of Downtown (and the City as a whole) have predominant architectural styles. For instance the Craftsman Era (Greene and Greene style) homes and bungalows on Granada and adjacent streets between Congress and Saint Mary's; historic presidio and adobe barrio areas by the Museum of Art and to the south of the Convention Center; Armory Park historic district: Spanish Colonial/ Mexican influences and more "modern" buildings from the 1940s to the present day in the urban center. Buildings are of various materials (e.g. brick, tile, brightly colored stucco, glass high rises, etc.) The best of the various periods of architecture should be embraced as a basis for the redevelopment vision - not one size fits all. Some of the best examples from the past are often found in the historic neighborhoods surrounding Downtown.
- 5) Sustainable and energy efficient materials and technologies (e.g. solar) should be used whenever possible to assure that Tucson is in sync with the present and future need to reduce its carbon footprint. Tucson must be conscious of, and efficient with, the use of resources both energy and water. Use of local materials also reflects a local Tucson aesthetic and reduces the distance building materials travel (carbon footprint again). For example A- Mountain rock used for foundations on older buildings around town.
- 6) Development of a pedestrian friendly Downtown will require a great deal of compromise. Some streets might need to be narrowed to provide more space for pedestrian use (wider sidewalks) and outdoor venues like sidewalk cafés. There is a concern that the "narrow sidewalks" are too narrow in some of the locations called for in the plan, such as the west side of Sixth Ave. Achieving this pedestrian friendly Downtown would require careful consideration by transportation experts to find alternatives for routing traffic and large trucks around the urban center to reduce congestion and provide a safer environment for pedestrians and bicyclists. Creating the most pedestrian-scale connectivity is essential. Service and loading areas should be designed as multi-use areas, which "read" as pedestrian zones rather than service alleys.
- 7) Orientation of the sun during the months people would be comfortable sitting outside (spring and fall primarily) should be considered when designating areas for cafés and outdoor seating areas. Providing shade is also a consideration that is high on the list if Tucson is to become more pedestrian friendly.
- 8) The color palette in the Congress Street District Plan should be expanded to include lighter and brighter colors, which are more acceptable in Tucson than more conservative parts of the state/country.
- 9) The document called for black metal benches, which would be extremely hot most of the year for people to sit on, even if placed under a tree, the sun shifts throughout the day. Therefore, it would be difficult to assure benches would be in the shade most of the day and high

air temperatures will heat up the metal and retain/release heat as temperatures drop. Materials and colors must be carefully considered for human comfort.

10) Misting systems are single-pass systems and use significant amounts of water and should be discouraged. A study by the U of A Water Resources Research Center (May 1994) found that cooling 1000 square feet of patio would require 2,160 gallons per month (3 times the average summer water use for homeowners in Tucson). Solar powered outdoor fans are a possible alternative to move air for a cooling effect. However, studies have shown that once temperatures rise above body temperature (98.6 degrees) they would not have a cooling effect but it is unlikely many people would be comfortable sitting outside when temperatures reach 100+. Further, it would be a positive precedent to require any ornamental fountains be run solely on harvested rainwater.

11) The City of Tucson Rainwater Harvesting Manual should be referenced and its use encouraged/required in all development citywide. Whenever opportunities for rainwater collection from buildings or roadways is feasible, it should be distributed to planting areas to supplement irrigation. In many cases, the limited size of planters will make harvesting of large street runoff volumes impractical. Therefore, alternative strategies should be explored to capture roof and sidewalk runoff in planters. Planting areas should be designed to collect rainwater rather than using berms that shed water away from plant roots.

12) All plantings and pots along sidewalks, rights-of-way and medians should have permanent irrigation systems. This will assure that during periods of drought, high evapotranspiration (ET<sub>o</sub>) due to high temperatures and/or when rainwater harvesting is not feasible or available, plants are maintained in a healthy state. It should be noted that a permanent drip irrigation system can be supplied primarily by stored harvested rainwater, and if designed properly, passive earthworks for collecting rainwater can be considered a permanent irrigation system following initial establishment.

13) The City should choose a diverse plant palette to assure that plants especially trees have varied life spans. This will ensure that the urban forest does not mature and die at the same time (a problem both aesthetically and financially if large areas of town need to be re-planted all at once). Plants with seasonal color (fall color, flowers, etc.) and accent plants with interesting form and/or color should be used to provide year round interest.

14) All pedestrian areas should be designed to maximize planting space. Large trees, especially native trees (which tend to have multi-trunk forms), require enough space so they do not interfere with pedestrian, bicycle and vehicular traffic leading to severe and often unaesthetic pruning. Areas for groves of trees should be considered when space allows or can be created.

15) Planters can serve multiple functions, e.g. raised planters can be built at seat height to serve a dual purpose. Plants are also less likely to be damaged if in raised planters.

16) Plants on all plans submitted to the City should be represented at their mature size. This will not only assist in plan review and appropriate plant spacing, it will also help designers and reviewers choose plants that are appropriate for the planting space available. If plants do not exceed their available planting area at maturity it will save the City large and on-going maintenance costs. An added benefit to choosing the right plant for the right space is it will reduce or eliminate the need to shear plants into unnatural forms or even with the edges of the curbs or medians. The tree spacing in the plan should be seen as a "baseline minimum" rather than a fixed prescription. In many cases, additional smaller trees can be added to meet various needs, while in other cases the spacing pattern may need to be altered in response to various constraints or opportunities.

17) The section on creating "places" includes much helpful guidance on creating legible features to help with downtown identity and wayfinding (e.g., gateways). At the same time, much work has been done with creating "places" that focuses on design/programming/management actions which promote active use by people of such spaces. This focus of "place" needs greater articulation in the plan. For example, many of the streetscape diagrams show benches facing away from each other when many could face toward each other to create a conversation area.

### Tucson-Pima County Historical Commission (TPCHC) Review Comments, April 2008

Three volunteers of the Tucson-Pima County Historical Commission (TPCHC) reviewed the Congress Street Design Manual. General comments made by the reviewers include:

- 1) Congress Street has many of the historic buildings in the Downtown area (i.e., buildings listed on the National Register of Historic Places, or eligible for listing).
- 2) Many of these buildings may be receiving facelifts through the City's new downtown facade program, preserving or restoring their historic visual characters.
- 3) The facade program, rehabilitation projects, and new infill development represent opportunities for downtown revitalization and placemaking based on the existing historic assets and historic visual character of Downtown.
- 4) Such an approach will build on recent revitalization successes such as the Historic Train Depot, Congress Hotel, Rialto Theatre, and MacArthur Building – all of which are restorations/rehabilitations of historic buildings.
- 5) New multi-use development should consider the existing historic buildings, the historic streetscapes, and historic building scales and rhythms.

#### **Additional comments on specific topics include:**

##### The Vision

The location of an esplanade on the south side of Congress Street between 5th Street and Arizona would entail demolishing historic buildings that are eligible for the National Register. An esplanade or other type of new greenspace on this block should be on the north side of Congress Street, where there are no historic buildings on that block.

##### Architectural Styles

The existing historic architecture defines the distinct character of Congress Street, although removal of some inappropriate modern facades will restore more buildings to their historic look and enhance the character of the district. Rather than “establish an architectural style,” the emphasis should be upon the existing variety of historic styles which creates visual interest.

##### Street Lighting

The existing black and silver streetlights are a century-old icon of Downtown, and should continue to be used.

##### Sidewalks

Tucson's historic sidewalks are concrete rather than brick.

##### Bollards

Bollards can provide a safety barrier while being attractive and compatible with historic buildings – for example, the new bollards installed in front of the restored James A. Walsh Federal Building and Courthouse.

##### Shade

Great care needs to be exercised in adding shade structures and trellises to historic buildings; they could adversely affect the National Register status or eligibility of historic buildings. Some types would not be appropriate from a design perspective – such as a suspended metal canopy on a historic brick building.

#### Courtyards and Passages

Covered walkways and arcades should be limited to new buildings - adding arcades to existing historic buildings would threaten their National Register eligibility.

#### Branding and Signage

The City of Tucson has developed the Downtown Destinations package, which is currently being implemented. It includes banners, parking lot identification, and street kiosks that guide people. This should be the basis for the design image for way-finding.

#### Policy Recommendations

If a PAD is developed, existing regulations for demolition of downtown historic properties should be retained. The demolition review process in the Rio Nuevo and Downtown (RND) Zone mimic the regulations in local historic districts and provide the ultimate protection for Downtown historic properties by setting a high standard, and requiring Mayor and Council approval to allow demolition.

### **Congress District Design Manual**

#### **Comments from staff in the City of Tucson Office of Conservation and Sustainable Development**

#### Sustainable Development Administrator

As sustainability architect William McDonough often says, “design is the first signal of human intention.” And so the “purposes” section of the Congress District design document rightly identifies some of the authors’ intentions for the manual [“provide ideas and recommendations related to urban design, streetscape and architecture,” and be “a tool to shape future development in a manner that results in a more livable and more economically and environmentally sustainable community”.] That said, the design manual waits until chapter 13 to present the theme of sustainability and what it means to the authors as well as what sustainability elements the developers have in mind for the overall district. If the design manual is to earn the sustainability brand, it would be more effective to introduce the sustainability elements at the outset and then use them as a filter through which every structural category (paving, lighting, etc.) gets passed. Currently, it appears as a bit of an afterthought, added to the manual in a late chapter as if it is on a par with “site furnishings” as a concept rather than being the driver for every attribute of the district that the design manual intends to address.

The content of Chapter 13 shows good understanding of many “smart growth” considerations that often get labeled “sustainable.” These features, if woven into the district design and build-out, would certainly represent an improvement over much of the current district landscape. Whether or not we could look back in ten years (or longer) and say that it was “sustainable” is another issue.

I think the biggest weakness of the design manual – and indeed most urban design guides being developed at the moment - is in not acknowledging the larger regional context in which the Congress District development would occur. This context includes those major shifting trends in price and availability of conventional energy sources (oil, gas, electricity) as well as the projections for significant regional climate disruptions that will together determine the sustainability (especially economic) of any planning endeavor of this size. In other words, we must design buildings to be as independent of fossil energy sources as possible because these sources will become too expensive before we are even part way into the design life of the development – not because renewable energy is something that will be great to do so that some level of LEED certification can be achieved. Likewise, water efficiency measures become a safeguard for the continuity and survival of communities under many of the likely drought and temperature scenarios forecast by the United Nations Intergovernmental Panel on Climate Change (IPCC), rather than an alternative or optional feature that may or may not be part of a project. Lastly, the design effort needs to be evaluated under a scenario in which there is a carbon price tag. Thus, assumptions about “economic sustainability” for the Congress District (or anywhere) cannot ignore the three-fold challenges of energy prices/availability, a coming carbon price tag, and climate disruption/adaptation. The long-term economic sustainability, let alone social and environmental, of the Congress District depends on the right decisions being made today as to energy, water and climate futures that are shifting daily. It is not an easy task, but this does not mean we should avoid addressing them. We know what is “going down” as it were, and we must be very sure that we plan accordingly. We won't get a second chance, or at least a second chance as inexpensive as it will be if we get it right at the outset.

Environmental Projects Coordinator

1. The Downtown area is essentially a “canyon” in terms of microclimates and the comfort or discomfort this creates for people outside. Wind is funneled between buildings and can be strong, sometimes hot, sometimes cold, sometimes refreshing. Sun and shade patterns typically are sharply defined. People, plants, and cars are crowded within the bottoms of the “canyon.” Thoughtful design can increase comfort in this challenging environment, taking the following into account:
  - a. Consciously place--or avoid placing--vegetation, buildings, ramadas, and other elements so they result in proper passive solar orientation that creates sun-warmed sitting/walking/gathering locations in winter (when the sun is low in the southern sky at noon and hours of daylight are short), and shaded places in summer (when the sun is in the northern sky except at noon when its straight overhead; and when the hours of daylight are very long). For example, trees placed on the north side of east-west street corridors should be deciduous, so that in winter, when the sun is low in the southern sky, these trees do not completely block out welcome sunlight and warmth.
  - b. Use the mass, overhangs, and indentations of walls and buildings to assist in creating comfortable microclimates. A south-facing dark building face will absorb heat and emit it later in the evening, creating a warmer microclimate in winter. The north side of a light-colored building will not heat up quite as much in summer, nor re-emit quite as much heat compared to a dark face in the same location.
  - c. Use vegetation and building design to mitigate the effects of strong winds in public gathering places, especially the hot, dry prevailing winds that blow from the southwest in April, May and June.
  - d. Create visual and functional separation between walkers and vehicles where possible, to reduce the sense of being crowded together into the confined canyon bottoms.
  - e. Water draining to the bottom of a canyon can become a major force. But it is also a major resource. Harvest water running off rooftops to help support street plantings. Store this water in tanks to extend the seasons during which plants can be supported with rainfall, and to visibly demonstrate the City’s commitment to water harvesting. Tanks can also double as public art and focal points in gathering areas. They moderate temperature when they are full since water heats up and cools off slower than surrounding air.
  - f. Use native plants in landscape design to create a sense of place in the urban canyon that is otherwise without many references to the Sonoran Desert. Check our riparian canyon species when determining the plant palette. These include lush understory plants, interesting grasses, colorful shrubs, and broad-leafed trees. Support these to the greatest extent possible with rainwater. There are a number of native plants that do not have thorns, that do have flowers, do not have excessive leaf or seed drop, and/or that have single trunk shapes.
  - g. If water features are desirable to mitigate noise and soothe the human environment, design these around canyon topography. For example, water that will be used to support plants can be run through an “ephemeral rocky streambed/water feature” before it arrives at the plant it irrigates.
  - h. The Sonoran Desert has hundreds of edible and medicinal native plants. Consider whether parts of the Downtown area could become gleaning locations for velvet mesquite, palo verde seeds (harvested when they are still very young and green), ironwood, etc.
2. To fully encourage and incorporate sustainable elements in design, use pictures in the design manual that illustrate these principles, including use of native plants, appropriate solar orientation (put captions on selected pictures noting the direction buildings face), interesting water harvesting features, appropriate overhangs, wind attenuation features (e.g. trellis on the west side of a bus stop).
3. In all schematics of streets, parking areas, etc. indicate locations for water harvesting features including curb cuts, depressed planting areas relative to adjacent hardscape (using the basic pattern of raised paths and roads versus depressed landscape areas), use of porous paving products where appropriate (note, porous paving products are interesting and can reduce stormwater runoff, and can provide subsurface soil moisture that is available to the roots of adjacent plants). As with other paving, raise the elevation of the porous paving areas relative to adjacent plantings areas. Make sure porous paving areas do not get runoff flowing over it that contains much sediment.
4. Show light fixtures powered by small solar panels.

5. Use locally created public art that serves multiple functions: for example bike racks made by BICAS from recycled bicycle parts. Also use public art that serves as a trellis, trash receptacle, flower pots, benches, etc.
6. As noted above, choose color palettes that keep in mind pedestrian comfort and passive solar heating or deflection of heat (do not underestimate how uncomfortably cold the urban canyon is in winter).
7. Regarding the sustainable section.
  - a. Tucson has a wealth of resource people who can assist with sustainable design, some nationally and internationally renowned, many working for or with nonprofits. Include the public, private, nonprofit, and academic sectors as resources for this effort.
  - b. Include sustainable design principles in the guidelines document. Credit Introduction to Permaculture. These are fundamental to shifting the built environment in the direction of sustainability. These principles are described below.

### SUSTAINABLE DESIGN PRINCIPLES

Sustainable design principles are applicable to a range of sites. Following these principles during site design helps focus attention on the characteristics of the land (sun, wind, rainfall, existing vegetation), the needs and products of the built environment (buildings, landscape plants, hardscape), and the conscious placement of elements in the environment to work with nature instead of against it. This synergy improves site efficiency and human comfort, increases the longevity of site elements and reduces the amount of external resources needed to sustain the site.

These principles are derived and adapted from the work of Bill Mollison in *Introduction to Permaculture*, Tagari Publications, 1991. Principles are shown in bold text followed by italicized examples that illustrate how these principles can be applied.

1. **Place every element of a site in relationship with another design element so they assist each other.** *Place trees on the west, north and east side of buildings in the desert environment to maximize shade in the hot summer months when the sun is in the northern sky most of the day. Water from the building's rooftop in turn waters the trees that shade the building.*
2. **Each element of a site should perform multiple functions.** *Trees can provide shade, create visual barriers, reduce the heat island effect, provide habitat for urban birds and produce leaf and twig duff that mulches the soil below.*
3. **Each important function is supported by many elements.** *Water is the limiting resource in the desert. Drought is periodic and could become more frequent with climate change scenarios, so it is important to have more than one source of water. A combination of municipal-supplied water and harvested rainwater provides redundancy in water supply. In addition, greywater can be investigated for reuse.*
4. **Plan for efficient energy use using sectors to understand and design for the site.** *The angles at which the sun hits a site are mapped to help determine appropriate site design. With this information, align buildings and place windows to allow passive solar heating in winter, deflect sunlight from windows in summer, and make maximum use of properly placed, fully exposed solar panels to generate electricity on site. There are a variety of sectors that can affect a site, including sun angles, water flow, wind, noise, human and vehicle traffic, and more.*
5. **Plan for efficient energy use by planning activities around zones of relative use.** *Concentrate high water-intensity plants and labor-intensive activities in areas where people are frequently present to observe and assist. Place low water-use plants and infrequently performed activities away from population centers.*
6. **Use biological resources over fossil fuel resources if possible.** *Cool buildings using trees as much as possible to reduce demand for air conditioning powered by fossil fuel-generated electricity. Use renewable wood products in construction where possible instead of metals of fossil fuel-based products that cannot be grown.*

7. **Recycle resources, energy and materials on site.** *Resources used for one purpose at a site should be reused in as many ways as possible. For example, water discharged down sinks and drinking fountain drains can be routed into the landscape to water plants. Water runoff from car washes can be used to irrigate adjacent planting areas.*
8. **Use and accelerate natural plant succession to establish favorable sites and soils.** *Plant trees, shrubs and grasses to simulate the structural pattern the plants would eventually take in natural settings. Trees shade the understory plants from overhead sun and help insulate them from winter frost. Shrubs shade the trunks of trees from low angle sunlight. Soil microorganisms associated with a range of plants improve soil conditions.*
9. **Use a diversity of beneficial species for a productive, interactive system.** *Plant a range of native plant species appropriate for the rainfall, elevation and soil conditions of a site. In the urban environment, this plant diversity will attract and help support a range of native birds and insects that pollinate plants on site and distribute native seeds.*
10. **Use edge and natural patterns to best effect.** *The most diverse area ecologically is the 'edge' where two or more ecological zones meet. This richness and diversity occurs because characteristics and species of both zones are present in the same area. In a human community, this edge can be the node where walking paths, roadways, bike paths and bus routes converge. This hot spot is an ideal location to communicate to a larger number of people from diverse areas and backgrounds.*

City of Tucson Parks Commission and Director of Parks and Recreation's comments:

**Urban Heat Island Mitigation**

- Increased emphasis on shade (trees or shade structures where there is insufficient space for trees)
- Emphasis on light colored materials. Bricks and dark pavers are more heat absorbing than lighter colored concrete. Benches made of recycled plastic composite are durable and cooler than metal benches.
- Consideration of green roofs and roof top gardens.

**Connectivity/Walkability**

- Exploit potential for pedestrian arcades (e.g. Arizona Avenue)
- Plan utility locations to maximize sidewalk width and promote pedestrian amenities (e.g. underground trash compactors).
- Plan for holiday lighting.
- Streetscape connects green spaces and public spaces within the Congress District, but also provides linkages to surrounding areas with future development (e.g. Armory Park's Senior Center and the new Martin Luther King Depot Plaza complex).

**Sustainable Design**

- Increase emphasis on sustainable design methods such as water harvesting, native plant material, shade that is planned with solar orientation in mind, reclaimed water and planting details that maximize the success of street trees (e.g. structural soil).

**Durability**

- Bricks and pavers require more maintenance than concrete because they heave and buckle over time.

**Public Art**

- Use public art to tell pedestrians the story of Downtown - its history, its place in the community and its future.





